

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL,  
NEW DELHI  
M.A. No. 70/2023  
In  
ORIGINAL APPLICATION NO. 105/2023**

**IN THE MATTER OF:**

ML Dhiman ...Applicant

Versus

State of Punjab & Ors. ...Respondent

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Filed through

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Dated: 11.09.2024

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL,  
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M.A. No. 70/2023  
In  
ORIGINAL APPLICATION NO. 105/2023**

**IN THE MATTER OF:**

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**ADDITIONAL COUNTER AFFIDAVIT FILED BY RESPONDENT  
NO. 3 ("PURE AND CURE HEALTH CARE PVT. LTD.")**

I, Sanjay Rai, the authorized representative of Respondent No. 3 having its registered office at: 305, Mohan Place, L.S.C, Block – C, Saraswati Vihar, Delhi – 110034, do hereby solemnly affirm under oath and state as follow:

1. That I am the authorized signatory of Pure and Cure Healthcare Private Limited (hereinafter referred to as "the **Company/ Respondent No. 3**") and am well conversant with the facts and circumstances of the case.
2. The industrial unit in question, currently owned and managed by Respondent No. 3, was previously under the ownership and management of M/s Parabolic Drugs Limited from 1996 to 2021. The timeline of ownership and management is as follows:
  - a) August 23, 2018: M/s Parabolic Drugs Limited entered insolvency proceedings following an order by the Hon'ble National Company Law Tribunal (NCLT).



For Pure and Cure Healthcare Private Limited

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- b) October 2018 to January 2021: The industrial unit was managed by a Resolution Professional.
- c) January 12, 2021: The Hon'ble NCLT Chandigarh approved the Resolution Plan submitted by Respondent No. 3.
- d) March 2021: Respondent No. 3 effectively assumed control of the unit.

Since taking over this distressed industrial unit, Respondent No. 3 has invested approximately INR 9 crores (Indian Rupees Nine Crores) (an amount that continues to increase) in various environmental compliance measures. These investments include: Installation and commissioning of an Effluent Treatment Plant (ETP), Installation and upgrade of monitoring systems and equipment, conducting environmental audits, ensuring compliance with environmental regulations. The copy of detailed breakdown of these investments is annexed herewith and marked as **ANNEXURE R3/1**.

- 3. During the inspection on 28.02.2023, it was observed that the unit was still operational, despite the Consent to Operate (CTO) having been revoked on 22.02.2023. The revocation letter was issued on 22.02.2023, and the CTO was valid till 31.03.2023. This revocation order was uploaded online on 01.03.2023 and the physical copy of the revocation letter was not received by the Respondent until 06.03.2023. As such, the revocation order came to the knowledge of Respondent No. 3 with a delay. Aggrieved by the same, Respondent No. 3 sent a letter of Response dated 10.03.2023 to the Punjab



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Pollution Control Board (PPCB) incorporating the confirmation of payment of INR 10 Lacs *qua* environmental compensation, and requesting the officers of PPCB to visit the unit, for the purpose of checking status of environmental compliance of the unit in order to avail CTO. In pursuance of the visit, and the observations made by the officer, Respondent No. 3 had prepared a compliance report. The copy of revocation letter (online) dated 01.03.2023, Daak Entry Register mentioning physical receipt of the revocation letter dated 06.03.2023, copy of the response letter dated 10.03.2023, copy of demand draft, and the compliance report, along with the copies of photographs, are all annexed herewith, and marked as ANNEXURE – R3/2 (Colly).

4. In compliance of the order dated 21.11.2023 passed by this Hon'ble Tribunal, Punjab Pollution Control Board (PPCB) on 22.01.2024 filed a status report, mentioning the decision taken by the Chairman of PPCB to revoke CTOs of Respondent No. 3. However, on 15.03.2024, PPCB had granted fresh set of Air CTO and Water CTO, valid until 30.06.2024. Thereafter, another set of Air CTO and Water CTO were issued by PPCB granting extension of the validity of CTO to Respondent No. 3. It is important to note that the unit is a continuous process plant, and that the manufacturing processes in the plant involves highly exothermic reactions, exerting very high temperature. In case the manufacturing process is shutdown abruptly, it will not be viable for the Respondent No. 3 to maintain the temperature. As a result, the material used in processing or storage, would decompose, and emit hazardous gases in the environment.



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The unit of Respondent No. 3 is an Active Pharmaceutical Ingredient (API) manufacturing unit that manufactures the main active chemical compound in a medicine for desired effect. Such plants cannot be instantly switched on or off like conventional facilities. Abrupt shutting down such type of plants can lead to shortage of medicines that are critical to the health of the patients globally.

The chemical reactions involved require careful control and management, and a safe shutdown of any ongoing process typically requires approximately 18 days to complete. In light of these operational constraints, we had previously submitted representations explaining our situation. While the plant was found operational, we had not initiated any new production batches and were in the process of gradually and safely winding down operations. The continued operation of chemical reactors was necessary to ensure safety and prevent potential hazards. The copy of letter of continuation to M/s Parabolic Drugs (in Punjabi) dated 17.05.2002, along with its English Translation, is annexed herewith, and marked as **ANNEXURE R3/3 (Colly)**.

5. The Respondent No. 3 has conducted an assessment of the impact resulting from the electrical supply disconnection at the Unit, where Cephalosporin and Betalactum Drugs are being manufactured. It is worthy of being noted that the Cephalosporin is a class of antibiotics widely used to treat bacterial infections, even such infections that may be proven to be life-threatening. As discussed above, the cessation of operations at an API plant can have far-reaching



consequences for various stakeholders, including employees, the manufacturer, and the broader community.

5.1 The closure of Respondent No. 3's API facility may give rise to regulatory concerns, particularly given that the plant produces critical drugs and may be the sole source for certain medicines. This situation could potentially lead to supply shortages, adversely affecting patients globally who depend on these medications for their health and well-being. It is pertinent to note that the process of restarting operations following an abrupt closure also takes a long duration of 21 days.

5.2 The most immediate consequence of the shutdown is the loss of employment for the plant's workforce. Approximately 700 direct employees face potential financial hardship and unemployment, with their future and that of their dependents at risk. Additionally, nearly 280 indirect workers will also face joblessness for the duration of the closure. These individuals may encounter difficulties in securing comparable employment opportunities within the locality.

5.3 The plant closure results in disruption to the aeration system of the Effluent Treatment Plant (ETP). The bacteria integral to this system rely on Chemical Oxygen Demand (COD) feed via effluent and air purging facilitated by operational air compressors. Following a shutdown, the regeneration of bacterial colonies to pre-closure levels is estimated to require a minimum of two months.



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5.4 The closure of Respondent No. 3's API plant may have broader implications for the community, including a reduction in tax revenue and potential environmental concerns. As a significant employer in the region, the plant's closure could precipitate a cascading effect of job losses in other local businesses.

5.5 The shutdown of Respondent No. 3's API plant will likely impact manufacturing operations, leading to a decrease in revenue and potential loss of market share. This is particularly significant as the plant is a key antibiotic supplier, and its closure could disrupt the entire supply chain, potentially resulting in shortages of life-saving drugs. A 15-day shutdown is projected to result in a sales loss of approximately Rs. 9.00 Crores. Furthermore, due to the non-supply of APIs, there will be an additional loss in formulation manufacturing, estimated at 30 Million Tablets and 2 Million vials for customers who produce final life-saving formulations. Respondent No. 3's preliminary assessment indicates that approximately 1.5 Crore patients may be unable to access the medicines, which they currently use as prescribed by their physicians.

6 Regarding the restoration of electricity connection after revocation orders, the sequence of events, as detailed in the status report dated 22.01.2024, was as follows: Punjab Pollution Control Board (PPCB) issued show cause notices to Respondent No. 3, who submitted a response that was not considered. Subsequently, revocation of electricity was ordered. Due to the nature of the plant's continuous



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chemical processes, Respondent No. 3 represented its case to the Chairman of PPCB through written communications. The case was then considered, resulting in the issuance of a three-month Consent to Operate (CTO) and permission to restore electricity. It's worth noting that Respondent No. 3's predecessor, M/S Parabolic Drugs, which was also manufacturing the same molecule, had previously informed the electricity board about the continuous nature of such operations. This precedent underscores the critical need for uninterrupted power supply in this type of facility to maintain safety and prevent potential hazards associated with abrupt shutdowns of chemical processes. In view of the above stated concerns, it is imperative to note that the continuous functioning of the unit is of vital importance. The copies of show cause letter by PPCB dated 14.11.2023 and 15.11.2023, our response dated 20.11.2023, along with a copy of letter dated 21.11.2023 entailing the representation made to the Chairman of PPCB, a letter dated 23.11.2023 requesting PPCB to continue the operations, a letter of disconnection by electricity department dated 20.11.2023, a letter of restoration request by PPCB to Chief Engineer Electricity dated 30.11.2023, and CTO dated 30.11.2023 are all annexed herewith and marked as **ANNEXURE R3/4 (Colly)**.

- 7 That on 28th May 2024, the Joint Committee formed by the Hon'ble National Green Tribunal visited our plant premises located at Village Sundran, Tehsil Dera Bassi, District Mohali, Punjab. As stated in the report:



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*"Para 3: The committee inspected M/s AKUMS Life Science Ltd. located at Village Sundran, Tehsil Dera Bassi, District Mohali, Punjab on May 28th, 2024 and inspected industry premises and surrounding areas and also interacted to local nearby village residents."*

- 8 On last date of hearing i.e., 15.07.2024, the Respondent No. 3 had received the report and accompanying Suggestions submitted by the committee. The Respondent No. 3's plant operates on a Zero Liquid Discharge (ZLD) concept, ensuring that no processed water is released onto the ground. As stated in the report:

*"Para 13: At the time of visit, committee observed that no effluent is being discharged outside and hence claimed as Zero Liquid Discharge (ZLD)."*

The Respondent No. 3, as a responsible organization committed to environmental protection, hereby formally accepts all the Suggestions provided by the committee. That in response to the specific suggestions made by the committee, the Company states as follows:

- 8.1 Ground Water Monitoring: Respondent No. 3 is actively addressing the concern of ground water quality in the unit area. To this end, we have initiated a comprehensive ground water survey in collaboration with Indian Institute of Technology (IIT) Ropar to conduct a thorough assessment of the ground water quality in our operational area. A Joint Research and Development (R&D) project agreement has



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been finalized and executed between IIT Ropar and Pure and Cure Healthcare Pvt. Ltd. on August 5, 2024. This collaboration aims to provide an independent and scientifically rigorous evaluation of the ground water conditions. The survey is designed to be comprehensive, covering various aspects of ground water quality and potential impacts from industrial activities. While the exact timeline for the completion of the survey is subject to the research protocols established by IIT Ropar, we anticipate receiving preliminary results within the next few months. A copy of the Joint R&D project agreement with IIT Ropar is annexed herewith, and marked as ANNEXURE R3/5.

8.2 Operation & Maintenance of ZLD Based ETP System:

Respondent No. 3 is enhancing its Zero Liquid Discharge (ZLD) based Effluent Treatment Plant (ETP) system by replacing the Ultra Filtration Membrane and installing a new Reverse Osmosis membrane by September 30, 2024. These upgrades are projected to improve removal efficiencies as follows:

- a) Total Dissolved Solids (TDS): from 81.95% to 90%
- b) Chemical Oxygen Demand (COD): from 79.91% to 90.95%
- c) Biological Oxygen Demand (BOD): from 87.12% to 88.92%

Post-upgrade, the output COD is expected to be below 130 mg/l (limit: 250 mg/l), and BOD will be significantly under



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the 30 mg/l limit. These improvements demonstrate our commitment to surpassing environmental compliance standards.

8.3 Gauge Device: Respondent No. 3 has taken measures to improve monitoring and control of its water treatment systems by installing pressure gauge devices at the filtration systems of both the Effluent Treatment Plant (ETP) and the Sewage Treatment Plant (STP). The installed pressure gauges have a least count of 0.1 Kg/cm<sup>2</sup> and a range of 0-7.0 kg/cm<sup>2</sup>, enabling us to maintain the required pressure for optimal filtration performance. This installation demonstrates our commitment to precise monitoring and efficient operation of our treatment facilities. For verification purposes, we have attached photographic evidence of the installed pressure gauges and their corresponding calibration certificates. The copies of photograph of an installed pressure gauge, along with its respective calibration certificate are annexed herewith, and marked as **ANNEXURE R3/6 (Colly)**.

8.4 Approach to STP Units: Respondent No. 3 has implemented significant improvements in its wastewater treatment processes. Previously, domestic sewage was treated in the effluent treatment plant along with low TDS/COD streams and MEE condensate, with the treated water being recycled for use in the boiler and cooling tower. Following recommendations from the Punjab Pollution Control Board (PPCB), we have installed a state-of-the-art Sewage



Treatment Plant (STP) dedicated to treating sewage separately. This treated water is now being reused for plantation purposes, aligning with our commitment to water conservation. The joint team (MOEF and CPCB) observed that the approach to the STP tank was suboptimal, hence Respondent changed the staircase which is comfortable and safety complied. To illustrate these changes, we have attached the old and new water balance diagrams. The copies of old and new water balance diagrams, along with an explanation, and the copies of pictures of staircase and ladder are annexed herewith, and marked as **ANNEXURE R3/7 (Colly)**.

- 8.5 Enhancement of Mechanical Sludge Dewatering System: Respondent No. 3 is proactively improving its sludge management processes. We are currently consulting with experts to identify state-of-the-art technologies to enhance our mechanical sludge dewatering system's capacity. Our existing multi-screw disc sludge dewatering system produces ETP sludge with 30 to 35% moisture content. To further reduce the volume and weight of this sludge, we are exploring suitable sludge dryer options. We have committed to installing a new sludge dryer by March 31, 2025. The timeline accounts for the equipment's supply time of approximately four months. This upgrade is expected to significantly reduce the sludge's moisture content, thereby decreasing its volume and weight and improving our overall waste management efficiency. The copies of details of the proposed equipment are annexed herewith, and marked as **ANNEXURE- R3/8 (Colly)**.



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8.6 Maintenance and Calibration of Online Systems: Respondent No. 3 is diligently following the calibration schedule recommended by the equipment manufacturer for its Online Continuous Emission Monitoring Systems (OCEMS). These systems undergo annual calibration by the Original Equipment Manufacturer (OEM) as per their guidelines. We maintain a comprehensive record of all calibration certificates, which are readily available for inspection by Punjab Pollution Control Board (PPCB) and Central Pollution Control Board (CPCB) officials during their site visits. Furthermore, these calibration certificates are regularly submitted as part of our six-monthly reports to the Ministry of Environment, Forest and Climate Change (MoEF). To demonstrate our compliance with these calibration requirements, we have attached the most recent calibration certificates. The copies of calibration certificates are annexed herewith, and marked as **ANNEXURE R3/9 (Colly)**.

8.7 Furrows and Ridges in Plantation Area: Respondent No. 3 has made significant progress in implementing Karnal Technology for efficient plantation and water conservation. We have already successfully developed 1.5 acres of green belt using this technology, which includes the creation of proper furrows and ridges. Building on this success, we are committed to extending the Karnal Technology to the majority of our feasible plantation areas. Our plan is to complete this expansion by September 30, 2024, after the monsoon season concludes. This timeline allows us to take advantage of



optimal planting conditions while ensuring the effectiveness of the technology. To provide visual evidence of our current implementation and future plans, we have attached relevant photographs and documentation. A copy of photographs of the implementation of Karnal Technology is hereby annexed, and marked as **ANNEXURE R3/10**.

9 That the Respondent No. 3 commissioned an independent performance audit of its pollution control devices by the Thapar Institute of Engineering Technology. The audit report, dated July 16, 2024, provides a comprehensive analysis of the Sewage Treatment Plant (STP), Agitated Thin Film Dryer (ATFD), Bag House Filter amongst others. The copies of the pictures of the abovementioned installed integrated systems, are annexed herewith and marked as **ANNEXURE R3/11 (Colly)**. The copy of the audit report dated 16.07.2024 is annexed herewith and marked as **ANNEXURE R3/12**. The important observations and their compliance status are extracted, which is annexed herewith and marked as **ANNEXURE R3/13**.

10 That the audit report by Thapar confirms the effectiveness and compliance of Respondent No. 3's pollution control measures:

10.1 Sewage Treatment Plant (STP):

The report states: "*The STP design is robust and the latest state of art. Performance of STP operation is up to the mark. The outlet parameters are within the prescribed limit.*"

**(Chapter 5: Conclusion at Page 38)**



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This demonstrates compliance with the Water (Prevention and Control of Pollution) Act, 1974.

10.2 Agitated Thin Film Dryer (ATFD):

The report notes: "*The ATFD design and performance is perfect at the enhanced capacity.*" (**Chapter 5: Conclusion at Page 38**).

This shows the Company's commitment to efficient waste management and compliance with environmental norms.

10.3 Bag House Filter:

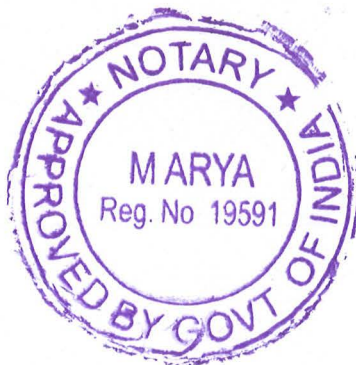
The report confirms: "*The design of the bag house filter is perfect and is achieving the parameters as discussed.*" (**Chapter 5: Conclusion at Page 38**).

This demonstrates compliance with the Air (Prevention and Control of Pollution) Act, 1981.

11 That the audit report provides detailed analysis of various parameters:

11.1 For the STP:

"*The STP demonstrates consistent and effective treatment efficiencies for Chemical Oxygen Demand (COD), Biological Oxygen Demand (BOD), Total Suspended Solids (TSS), and Total Dissolved Solids (TDS) across different times of the day. The pH levels remain stable, indicating good control over the treatment process.*" (**Summary at Pages 4**)



11.2 For the ATFD:

*"The ATFD shows total removal of condensate water. The enhanced capacity of the ATFD's performance across various parameters demonstrates the efficiency of the ATFD system."*

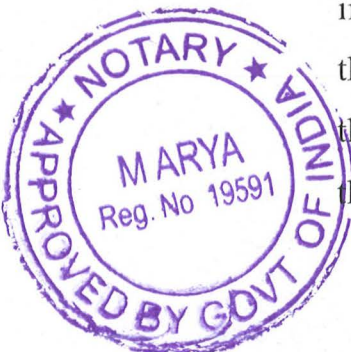
**(Summary at Pages 4).**

11.3 For the Bag House Filter:

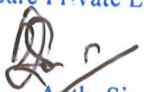
*"The Bag House Filter effectively reduces particulate matter levels from the boiler emissions, maintaining compliance with emission standards." (Summary at Pages 4)*

12 That the Respondent No. 3 reaffirms its commitment to environmental stewardship and compliance with all applicable environmental laws and regulations, including but not limited to the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, and the Environment (Protection) Act, 1986.

13 The industrial area in question is a hub of diverse manufacturing activities, housing over 50 active industrial units. These facilities engage in a wide spectrum of production, including fibres, chemicals, APIs, agrochemicals, crop protection products, engineering goods, polymers, paper, electrical components, and bricks. The industrial zone's economic impact extends beyond its immediate confines, with approximately 50,000 people residing in the surrounding area. Moreover, the adjoining agricultural fields to the industry are lush green and highly productive, and that till date there has been no complaint related to loss of agricultural



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productivity raised by the farmers. This significant population but also contributes to the overall environmental footprint of the region through residential activities and associated infrastructure. The combined effect of industrial operations and residential presence necessitates a comprehensive approach to environmental management in the area which the Respondent No. 3 has taken care by implementing proper environmental measures as discussed above.

- 14 That the Company reiterates its commitment to environmental stewardship and assures of its ongoing efforts to comply with all regulatory requirements and suggestions. At the cost of repetition, Respondent No. 3 emphasises that the continued operation of the industry after the revocation of CTO and electricity supply was necessitated by several critical factors. As a key manufacturer of essential APIs, an abrupt shutdown could lead to shortage of life-saving drug affecting millions of patients. The continuous nature of chemical processes in the plant requires controlled shutdown procedures to prevent potential hazards and environmental risks. The process of restarting operations after an abrupt closure is also complex. These factors collectively underscore the rationale behind the industry's continued operation pending proper resolution of regulatory concerns, balancing public health, safety, economic, and environmental considerations.



For Pure and Cure Healthcare Private Limited

  
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15 That the contents of this affidavit are true and correct to the best of my knowledge and belief, and nothing material has been concealed therefrom.

Identify the deponent who signed before me

For Pure and Cure Healthcare Private Limited

DEPONENT

Auth. Signatory

VERIFICATION:

11 SEP 2024

Verified at Delhi on this 11<sup>th</sup> day of September, 2024 that the contents of the above affidavit are true and correct to the best of my knowledge and belief, and nothing material has been concealed therefrom.

Identify the deponent who signed before me

identified by me  
Ganji Kausluli [AS/246/2021]

For Pure and Cure Healthcare Private Limited

DEPONENT

Auth. Signatory



ATTESTED  
NOTARY PUBLIC

11 SEP 2024

11 SEP 2024

**ANNEXURE R3/1**

<b>ETP/BOILER EXPENSES</b>			
<b>Description of Instruments/Work</b>	<b>Vendor Name</b>	<b>Value</b>	<b>Po No.</b>
ETP PLANT 200 KLD	PRAKRUTI ENVIRONMENTAL ENGINEERS	1,49,26,535.00	3100004418
Multiple Effect Evaporator	KETAV CONSULTANT	3,13,13,846.00	3100002153
AGITATED THIN FILM DRYER CAP1300kg/HR	KETAV CONSULTANT	1,36,91,114.00	3500000531
ID FAN ASSEMBLY FOR 6 TPH BOILER	CHEEMA BOILERS LTD	15,30,000.00	3500000715 & 3500000622
DUCTING MATERIAL FOR BAG FILTER OF 6 TPH	CHEEMA BOILERS LTD	7,20,800.00	3500000715 & 3500000622
BAG FILTER SYSTEM FOR 6 TPH BOILER	CHEEMA BOILERS LTD	37,00,000.00	3500000715 & 3500000622
SEWAGE TREATMENT PLANT(STP)	WOCK OLIVER	18,80,000.00	3500000560
ETP Tank Rectification work	R K C CONSTRUCTIONS PRIVATE LIMITED	48,11,425.00	3500000339,247,
Complete Environmental Audit	THAPAR INSTITUTE OF ENGINEER	14,00,000.00	3900001655
Civil work at Boiler Area.	FAST WORKS	9,27,965.10	3500000604
ONLINE MONITORING SYSTEM	DREXEL ELECTRONICS AND ENGINEERING	6,00,000.00	3100000031
ONLINE STACK MONITOR ANALYSER	DREXEL ELECTRONICS AND ENGINEERING	1,89,000.00	3500000393
Pipe Line Work	KALYAN PROJECTS CONSTRUCTION	5,67,287.50	
AGITATED THIN FILM DRYER CAPA:12.5SQM	ECONOMY PROCESS SOLUTIONS	24,90,000.00	
Underground LCOD, HCOD water pits	R K C CONSTRUCTIONS PRIVATE LIMITED	22,12,422.00	
Incinerator Plant	Anjani Sales Corporation	13,23,409.00	
RO PLANT 6000LPH(ETP)	Sam Traders(ION Exchange)	39,50,032.00	
		8,62,33,835.60	

8/21/24, 12:05 PM

pbocmms.nic.in/OCMMS-0.1/enotification/submitRevocationOfCTO/20766784

**Date Time:** 01-03-2023 12:57

**Notice Type:** Revocation of Consent to Operate(CTO)

## ANNEXURE R3/2 (Colly)

**Report:** Granted under Air (Prevention & Control of Pollution) Act, 1981. [View Report](#)  
Granted under Water (Prevention & Control of Pollution) Act, 1974. [View Report](#)

**Description** CTO granted under the Water Act, 1974 and the Air Act, 1981 were revoked/ cancelled vide letter dated 22/3/2023, respectively (copy enclosed).

**Notes:**

**Upload Document**  No file chosen  
\*Upload only non-editable files as Gif,pdf or Jpg files

Save



Akums

**AKUMS LIFESCIENCES**  
PLANT  
HUMAN

**LTD.**  
DERABASSI  
RESOURCES

Dak / Courier

Receipt Register

Sr. No.	Date	Docket No.	From	Name of Receiving Person	Sign of Receiving Person	Time
1009	4/3/23	By Hand Malkit	Akums Lifesciences Ltd. Barwala	Mr. Rajesh (HB)	Lejwi 06/3/23	11:06
1010	4/3/23	By Hand Malkit	Akums Lifesciences Ltd. Barwala	Mr. Rahul Pandey	Lejwi 06/3/23	11:06
1011	4/3/23	By Hand Malkit	Akums Lifesciences Ltd. Barwala	Mr. Amit Kumar	Lejwi 06/3/23	11:06
1012	6/3/23	TCIE Xpress-684394815	KalaTecta - Mumbai	Akums LIS All-1	Lejwi 06/3/23	11:06
1013	6/3/23	By hand Rahul	Santosh Pandey Barwala	MR. Harneet/AC/Neel	Lejwi 06/3/23	14:55
1014	6/3/23	By hand Rahul	Santosh Pandey Barwala	MR. Harneet/Sunehar	Lejwi 06/3/23	14:55
1015	6/3/23	India Post-RPOUS 297195	Punjab Par. dahan Control Board	M/S Akums 1/3 Sunehar	Lejwi 06/3/23	14:55
1016	6/3/23	By hand Rahul	Analytical Research development Lab Barwala	MR. Rahul Kumar Pandey Sunehar	Lejwi 06/3/23	14:55
1017	6/3/23	By hand Rajesh	Akums Life Sciences Ltd Lab	MR. Hemant Kumar	Rupinder 6/3/23	18:00



# Akums Lifesciences Limited

(A Subsidiary of AKUMS Drugs & Pharmaceuticals Ltd.)

Regd. Off. : Unit No. E3H, 3rd Floor, Godrej Eternia Commercial Complex,  
Plot No. 70, Industrial Area, Phase I, Chandigarh - 160 002  
Ph. : +91 87555 07983 E-mail : info.api@akums.in

To

Date: 10-03-2023

Environmental Engineer,  
Punjab Pollution Control Board,  
Vatavaran Bhavan, Nabha Road,  
Head Office, Patiala

**Subject:** Notice to issue directions u/s 33-A of the Water (Prevention and Control of Pollution) Act, 1974 for closure of the unit shall be issued to the industry with an opportunity of personal hearing before the Chairman of the Board.

**Reference :**

- I)** Notice to issue directions u/s 33-A of the Water (Prevention and Control of Pollution) Act, 1974 as amended in 1988 dated 02/03/2023 with reference no 1527
- II)** Regarding revocation of consent to operate granted under the water (Prevention & control of pollution) Act, 1974(letter no 1260) and cancellation of consent to operate granted under the Air (Prevention and Control of Pollution) Act, 1981 (letter no 1262)
- III)** Show cause notice was served vide letter No. 328 dated 17/01/2023

Dear Sir,

This is with reference to the Notice to issue directions u/s 33-A of the Water (Prevention and Control of Pollution) Act, 1974 as amended in 1988 dated 02/03/2023 with reference no 1527 and also letter no. 1260 and letter no 1262 dated 22.02.2023 issued by Punjab Pollution Control Board to Akums Life Science, Sudran Site.

We would like to bring to your kind notice that Akums Life Science Ltd is a responsible company engaged in manufacturing of Cephalosporin Drugs and Antibiotics which are used in treatment of life threatening diseases. Our Active Pharmaceuticals are being supplied to various formulations units across India and abroad. We are part of essential medicines manufacturing facility. Hence continuing production is the key in continuous supply of these medicines.

Our Site was visited by officers of Board on 30/12/22. During the visit, Officials found few noncompliance observations in our facility. Based on these observations, a show cause notice was served vide letter No. 328 dated 17/01/2023. Board has given an opportunity to the organisation to meet compliance. Compliance status was presented to the Honourable Chairman and respected Member Secretary on dated 27/01/2023 by our officers.



CIN No. : L24231CH1996PLC017755

# Akums Lifesciences Limited

(A Subsidiary of AKUMS Drugs & Pharmaceuticals Ltd.)

Regd. Off. : Unit No. E3H, 3rd Floor, Godrej Eternia Commercial Complex,  
Plot No. 70, Industrial Area, Phase I, Chandigarh - 160 002  
Ph. : +91 87555 07983 E-mail : info.api@akums.in

Subsequent to this, we have received a letter regarding cancellation/ revocation of our consent to operate for Air and Water. We have also received Notice to pay Rs 10 Lac towards compensation through letter vide with reference no 1365 dated 24/02/23. **We have paid Rs. 10 Lac as per the directive of the Honorable Board as per annexure I.**

Compliance report for the observations made during the visit of PPCB officials with latest status is attached herewith for your reference as per Annexure II.

We at Akum Life Sciences Ltd. (Erstwhile Parabolic Drugs Ltd.) are committed to comply with all the statutory requirements and fulfill them in total. Till date we have invested 5.6 Crores in upgrading Effluent Treatment Facility (Details given in Annexure III). Meanwhile we apply for a fresh application for consent to operate for Air and water, we request your good self to allow production activities based on our compliance report submitted during our hearing and updated status thereafter.

We request your officer to visit our site to inspect the status of compliance which will help us in applying for consent to operate.

Thanking you,

Yours Sincerely,

For AKUMS LIFE SCIENCES LTD,

Authorized Signatory.

Unit I : Vill. Sundran, P.O. Mubarakpur, Tehsil Derabassi, Distt. Mohali, Punjab - 140 201 (India)

Unit II : Vill. Chachrauli, P.O. Jeoli, Tehsil Derabassi, Lalru, Distt. Mohali, Punjab - 140 501 (India)

Unit III : 280-281, HSIIDC, Tehsil Barwala, Distt. Panchkula, Haryana - 131 418 (India)



# Akums Lifesciences Limited

(A Subsidiary of AKUMS Drugs & Pharmaceuticals Ltd.)

Regd. Off. : Unit No. E3H, 3rd Floor, Godrej Eternia Commercial Complex,  
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Ph. : +91 87555 07983 E-mail : info.api@akums.in

AKUMS/PENALTY/ETP/2023/03

Date: 09-03-23

The Environment Engineer  
Nodal office  
Punjab Pollution Control Board  
Mohali Punjab

**Subject: Submission of Environmental Compensation penalty of Rs.10.0 Lac in favor of Environmental Engineer, Punjab Pollution Control Board.**

Reference, Letter No.1365 on date 24-02-2023.

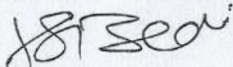
Dear Sir,

In the compliance of Proceeding letter and personal hearing on dated 27/01/2023, here we submitting Environmental compensation amount of **Rs. 10.0 lacs** in the form of Demand Draft bearing No. **021805** on dated **09-03-2023** in favor of **Environmental Engineer, Punjab Pollution Control Board.**

Please find enclosed here with Original copy of Demand Draft.

Thanking you

For AKUMS LIFE SCIENCES LTD,

  
Authorized Signatory.



Unit I : Vill. Sundran, P.O. Mubarakpur, Tehsil Derabassi, Distt. Mohali, Punjab - 140 201 (India)  
Unit II : Vill. Chachrauli, P.O. Jeoli, Tehsil Derabassi, Lalru, Distt. Mohali, Punjab - 140 501 (India)  
Unit III : 280-281, HSIIDC, Tehsil Barwala, Distt. Panchkula, Haryana - 131 418 (India)



A/C PAYEE ONLY  
NOT NEGOTIABLE

**MANAGER'S CHEQUE**  
VALID FOR 3 MONTHS ONLY

0 9 0 3 2 0 2 3

**\*\*ENVIRONMENTAL ENGINEER PUNJAB POLLUTION CONTROL BOARD\*\***

Pay

Or Order

अदा करे

या उनके आदेश पर

Rupees

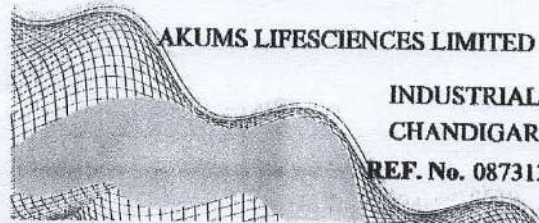
TEN LAKH ONLY.

रुपये

₹ \*10,00,000.00

MC - I

SESHASANI(C)/CTS-2010



**AKUMS LIFESCIENCES LIMITED**

INDUSTRIAL AREA - CHANDIGARH  
CHANDIGARH - 160002

REF. No. 087312023607

FOR VALUE RECEIVED

*Handwritten signature*  
15/11/20  
139493

AUTHORIZED SIGNATORIES  
Please sign above

⑈021805⑈ 160240020⑈ 999989⑈ 12

*Handwritten mark*



Phone No. 0175-2301182

## ਪੰਜਾਬ ਪ੍ਰਦੂਸ਼ਣ ਰੋਕਥਾਮ ਬੋਰਡ

ਪੰਜਾਬ ਪ੍ਰਦੂਸ਼ਣ ਰੋਕਥਾਮ ਬੋਰਡ, ਸਾਹਿਬ ਨਗਰ, ਪਟਿਆਲਾ-19001

email : ppcbsee\_zp1@yahoo.com

ਨੰਬਰ 265

ਮਿਤੀ 24.2.23

REGISTERED

To

M/s Akum Lifesciences Ltd.,  
(Erstwhile Parabolic Drugs Ltd.),  
Vill. Sundran, Mubarakpur, Tehsil Dera Bassi,  
Distt. SAS Nagar

Subject:

Proceeding of the personal hearing given on 27/1/2023 by the Chairman of the Board to M/s Akum Lifesciences Ltd., (Erstwhile Parabolic Drugs Ltd.), Vill. Sundran, Mubarakpur, Tehsil Dera Bassi, Distt. SAS Nagar u/s 5 Environmental (Protection) Act, 1986 for the violation of the provisions of the Hazardous & other Waste (Management & Transboundary Movement) Rules, 2016

The following were present:

From the Board:

1. Sh. G.S. Majithia, Member Secretary
2. Sh. Sandeep Bahi, Chief Environmental Engineer (P)
3. Sh. Paramjeet Singh, Senior Environmental Engineer (ZP-II)
4. Sh. Kuldeep Singh, Environmental Engineer (ZP-I)

From the industry:

1. Sh. Jatinder Singh Bedi, Asstt. Vice President
2. Sh. A.K. Singh, Environmental Head

It is intimated that the officers of the Board brought out that the industry was earlier granted authorization under the Hazardous & Other Wastes (Management & Trans boundary Movement) Rules, 2016 vide no. EE (HWC)/2012-17/(R-1811) dated 13/9/2012 which was further extended upto 27/1/2017 under the name and style of M/s Parabolic Drugs Ltd., Village Sundran, Mubarakpur, Derabassi, SAS Nagar. The said authorization was granted for categories 5.1 @ 1.2KLA, 20.3 @ 2.4 TPA, 28.1 @ 54TPA, 28.2 @ 0.004TPA, 28.3 @ 0.12 TPA, 28.5 @ 120 TPA, 33.3 @ 1200No./year, 33.3 @ 1.20 TPA, 34.3 @ 0.468 TPA, 35.1 @ 0.600 TPA 36.2 @ 0.468 TPA.

The industry has failed to get the authorization under Hazardous & Other Wastes (Management & Trans boundary Movement) Rules, 2016 applied in the new name and further the validity of earlier authorization has also expired.

To verify the facts of application and to check the compliance of hearing decisions, the site of the industry was visited by the officer of the Board on 5/7/2022 and it was observed that hazardous waste was found stored in an unscientific manner. The industry was neither complying with the SOP framed for SRP plant nor complied with the hearing decisions dated 28/4/2022. Therefore, the renewal of authorization applied by the industry was revoked vide no. HWM/renew/SAS/2022/17491724 dated 25/7/2022 due to reasons mentioned above.

The industry again applied for obtaining fresh authorization under Hazardous & Other Waste (Management & Tran boundary Movement) Rules, 2016 for the Generation, Collection, Storage, Recovery, Incineration of hazardous waste categories i.e. 5.1-Used or spent oil @ 1.2 KL/Annum, 20.3- Distillation residues @ 2.4 T/Annum, 37.3- Concentration or evaporation residues @ 54 T/Annum, 28.3- Spent carbon @ 4 T/Annum, 28.4-Off specification products @ 0.12 T/Annum, 33.1- Empty barrels/ containers/ liners contaminated with hazardous chemicals/ wastes @ 1200 Number/ Annum, 35.3- Chemical sludge from waste water treatment @ 0.468 T/Annum, 36.2- Spent carbon or filter medium @ 0.6 T/Annum, 37.2-Ash from incinerator and flue gas cleaning residue @ 0.468 T/Annum, 33.1- Empty

Proceedings (Autosaved) 2023

barrails/ containers/ liners contaminated with hazardous chemicals /wastes @ 1200 Number/Annum, 28.6- Spent solvents @ 120 T/Annum, which is contradictory to the earlier granted authorization under Hazardous & Other Waste (Management & Transboundary Movement) Rules, 2016 and the industry has mentioned repetitive entries of hazardous waste, which seems to be not in order.

The industry has not submitted compliance report of the previous granted authorization under Hazardous & Other Waste (Management & Transboundary Movement) Rules, 2016; has not submitted any documentary proof regarding the same and has also not submitted compliance report of the consents granted under the provisions of the Water (Prevention & Control of Pollution) Act, 1974 and Air (Prevention & Control of Pollution) Act, 1981. The industry resubmitting the application without removing the observations conveyed through previous application.

The site of the industry was visited by officer of the Board on 30/12/2022 and it was observed as under

- 1) The hazardous was stored in non-HDPE bags.
- 2) The hazardous waste of category 20.3 residual waste that was lying near the ATFD in Non-HDPE bags.
- 3) The hazardous waste which was lying in the hazardous waste storage room was not properly stacked.
- 4) The hazardous waste category 33.1 was found stored in various corners within its premises.
- 5) The spent solvent was also found stored in huge quantity in the various corners of the industry.
- 6) Hazardous waste category 37.2, 35.3, 28.1 were found stored in LDPE Bags. Bags were not properly stacked. Hazardous waste of category 33.1 were found stored in a non-designated place with no marking of hazardous waste.
- 7) The HTDS effluent generated from the industry is collected in a tank of 450 KL capacity. Approx. 150 KL effluent was found stored in the tank. The HTDS effluent is thereafter lifted to MEE from where MEE project is sent to ATFD and MEE condensate is circulated in cooling tower. ATFD salt was found collected in LDPE bags near the ATFD plant in open. The industry has providing EMF meter at MEE feed & MEE condensate & reading was 3851.77 KL & 13268 KL respectively. The industry has also provided EMF meter at ATFD feed tank & reading was 209.2 KL.
- 8) Around 1000 drum of recovered solvent were found lying in different locations of the industry & from 2 drums fumes were found being generated. The drums were found stored in open & not under covered shed.

The industry is continuously violating the provisions of Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016, willfully and deliberately. Therefore, the authorization applied by the industry was refused vide no. HWM/Fresh/SAS/2023/20532831 dated 20/1/2023, due to above motioned reasons.

In view of the aforesaid violations, in exercise of the powers delegated by the Government of India, Ministry of Environment & Forests, New Delhi, therefore, the industry was served notice u/s 5 of the Environmental Protection Act, 1986 vide Board's letter no. 330 31 dated 17/1/2023 alongwith an opportunity of personal hearing before the Chairman of the Board on 27/1/2023, with the following proposed directions to the industry and other concerned authorities:

- 1) That the industry shall close down its operations with immediate effect.
- 2) That the authorization granted under Hazardous & Other Wastes (Management & Transboundary Movement) Rules, 2016 shall be revoked
- 3) That the industry will not resume its operation till it complies with the provisions of the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.
- 4) That Punjab State Power Corporation Ltd. authorities will be directed to disconnect the supply of electricity available to the industry.

Proceedings (Autosaved - 2021)

5) That the DG set installed by industry shall be sealed, if any.


Therefore, the project proponent was served notice u/s 5 of the Environment (Protection) Act, 1986 for violation of the HWM Rules, 2016 alongwith an opportunity of personal hearing vide Board's letter no. 330-31 dated 17/1/2023 before the Chairman of the Board on 27/1/2023.

The representative of the industry who attended the hearing admitted to the violations/observations reported by the officer of the Board in the report of visit to the industry 30.12.2022 and also the facts of the complaint received in the Board on 26.12.2022. He submitted that they have complied with all the observations/violations reported during the visit on 30.12.2022 and reported in the complaint. They have upgraded their ETP to the 200 KLD capacity and also the MEE has been upgraded to 130 KLD capacity. The water stored in the tanks will be treated with MEE within 07 days and the hazardous waste generated will be got lifted to the TSDF, Nimbuan.

After hearing the officers of the Board and the representative of the industry, the Chairman of the Board decided as under:

1. On the basis of best assessment and judgement, an environmental compensation of Rs. 10.0 Lakh is imposed to the industry. The industry shall deposit Rs.10.0 Lakhs as environmental compensation within one week in the office of Environmental Engineer, Regional Office, SAS Nagar.
2. The industry shall immediately apply for authorization under the provisions of Hazardous & other Waste (Management & Transboundary Movement) Rules, 2016.
3. The industry shall phase out all the existing storage cum collection tanks containing highly contaminated effluent after treating the same in MEE within 7-days and hazardous waste so generated shall be disposed off to the TSDF, Nimbuan.
4. The Environmental Engineer, Regional Office, SAS Nagar shall visit the industry immediately to verify the statements of the representative of the industry made during the hearing, mode of disposal and compliance of various environmental laws/ rules and send his report/ recommendations in the matter. In case any violation is observed during the visit, strict action as per law including imposition of environmental compensation from the earlier date of violation i.e. 30/12/2022 shall be initiated.


You are, therefore, requested to comply with the aforesaid decisions of the personal hearing.

  
Environmental Engineer  
for & on behalf of the  
Punjab Pollution Control Board

Enclst. no. ....

Dated .....

A copy of the above is forwarded to the Environmental Engineer, Punjab Pollution Control Board, Regional Office, SAS Nagar. It is requested to verify the compliance made by the industry/ project proponent and shall submit further report and recommendations.

  
Environmental Engineer  
for & on behalf of the  
Punjab Pollution Control Board

Annexure-IICompliance Status of Observations

Sr. No	POINTS	STATUS	Evidence
1	Production Record	We have updated the production status. Same can be verified during the visit.	Details attached <b>Annexure-IV</b>
2	Issue with LTDS treatment- a. Bacterial growth issue b. Steam Purging Line to be provided c. No arrangement of preventing froth generated in aeration tank	We have installed new LTDS treatment facility. Hence bacterial growth was slow. Now it is up to the mark. We have provided steam line for purging. Arrangement has been made for avoiding froth carry over.	Photographs attached <b>Annexure-V</b>
3	Approximately 150 KLD HTDS was found stored in a tank. Salt from ATFD was found collected in LDPE bags near ATFD plant in open	Stock of HTDS level brought down to minimum possible level. Also salt from ATFD area moved to Hazardous Storage Area.	Photographs attached. <b>Annexure- VI</b>
4	There is one underground tank filled with HTDS effluent till brim level. Suction pipe found connected to HTDS tank.	Effluent from this tank was taken out and treated in MEE. After that tank has been closed permanently after removing suction pipe.	Details attached. Photograph attached <b>Annexure-VII</b>
5	Incinerator was not in operation, however Aliza plates & vials generated from QC section was found feed in primary chamber of incinerator.	Incinerator has been made functional.	Photograph attached <b>Annexure-VIII</b>
6	The industry has not provided any mechanism of sprinkling on fuel ash near the boiler area. The ash was found stored in unscientific manner.	Containment boundary shall be made with RCC flooring. Sprinkler shall be installed by 30-April-23. Meanwhile brick wall arrangement is being made with garden sprinkler for spraying water	Photograph of Civil Work in progress and completed attached. <b>Annexure-IX</b>
7	Housekeeping of the industry was poor	Housekeeping issues addressed and it is being maintained.	Photograph attached <b>Annexure-X</b>
8	No activity has been carried out by the industry under CER, unable to give the record during visit.	We regret for not providing the correct information during your visit. We have taken following CER activities and few more activities shall be completed in next 6 months period 1. Gas cylinder distribution to nearby villagers to help them in using clean fuel. 2. Donation given to school for imparting education.	Details and Photographs attached <b>Annexure-XI</b>
9	No plantation/green belt has been developed by the industry.	We have developed garden area in last one month and planted 450 trees in our premises. We will continue this efforts to comply to the conditions laid down	Photograph attached. <b>Annexure-XII</b>
10	No rain water harvesting to be done by us	This is being complied.	
11	CCTV camera installed, CCTV camera connected with industry server but not connected with PPCB server.	Now same has been connected with PPCB server.	Details attached <b>Annexure-XIII</b>
12	The industry has provided OCEMS and VOC Meter but same was not connected to PPCB server	Now same has been connected with PPCB server.	Details attached <b>Annexure-XIV</b>

### CAPEX Spent on ETP Up gradation

Purch.Doc.	Doc. Date	Vendor/supplying plant	Short Text	Net Value
3100002296	22.09.2021	111671 KETAV CONSULTANT	SS SURFACE CONDENSOR	10,00,000
3100002296	22.09.2021	111671 KETAV CONSULTANT	VAPOUR SEPARATOR 5500MM	5,00,000
3100002153	11.09.2021	111671 KETAV CONSULTANT	Multiple Effect Evaporator with Stripper	2,47,00,000
3100000155	25.02.2021	110178 ECONOMY PROCESS SOLUTIONS	AGITATED THIN FILM DRYER CAPA:12.5SQM	24,90,000
3900000640	07.04.2022	306893 PRAKRUTI ENVIRONMENTAL ENGINEERS	Installation of ETP Plant 200 KLD	15,00,000
3100004418	14.03.2022	112342 PRAKRUTI ENVIRONMENTAL ENGINEERS	ETP PLANT 200 KLD	90,00,000
3500000339	18.02.2023	306320 R K C CONSTRUCTIONS PRIVATE LIMITED	CIVIL WORK IN ETP	3,61,900
3500000247	11.10.2022	306320 R K C CONSTRUCTIONS PRIVATE LIMITED	ETP 100KL storage tank	5,65,023
3500000176	07.09.2022	306320 R K C CONSTRUCTIONS PRIVATE LIMITED	ETP TANK RECTIFICATION WORK	13,37,500
3500000134	25.08.2022	306320 R K C CONSTRUCTIONS PRIVATE LIMITED	PROVIDING & FIXING OF KOTA STONE	1,57,500
3500000135	25.08.2022	306320 R K C CONSTRUCTIONS PRIVATE LIMITED	ETP TANK RECTIFICATION WORK	2,29,500
3900000697	17.05.2022	306320 R K C CONSTRUCTIONS PRIVATE LIMITED	ETP TANK RECTIFICATION WORK	23,17,500
3900000689	12.05.2022	306320 R K C CONSTRUCTIONS PRIVATE LIMITED	2000KL UNDERGROUND WATER STORAGE TANK	32,58,100
3900000323	24.09.2021	306320 R K C CONSTRUCTIONS PRIVATE LIMITED	CIVIL WORK	3,23,000
3900000323	24.09.2021	306320 R K C CONSTRUCTIONS PRIVATE LIMITED	ATFD FOUNDATION WORK	1,05,000
3900000244	05.08.2021	306320 R K C CONSTRUCTIONS PRIVATE LIMITED	5KL tank civil work	65,925
			Basis	4,79,10,948
			18% GST	86,23,970.70
			<b>Total</b>	<b>5,65,34,919</b>

Sno	Product	Max. Allowed /month - Kg	Qty Produced - Kg				Qty Invoiced- Kg			
			Dec.	Jan.	Feb.	March.	Dec.	Jan.	Feb.	March
1	Ceftriaxone Sod.	3000	600	600	1100	600	400	810	1110	400
2	Cefuroxime Axetil Amorphous	3800	440	640	1400	200	250	600	1400	60
3	Cefpodoxime Proxetil	3000	580		1728		550		803	520
4	Cefexime Trihydrate	2400-		900	680			805	300	
		9800	1620	2140	4908	800	1200	1410	3313	980

1. Bacterial Growth
2. Steam Line for purging
3. Prevention of froth carry over to nearby area



Initial Level

Current Level



ATFD Salt Segregation



RCC-1 Underground tank which was filled with HTDS effluent having TDS value 32800 mg/l and Total quantity of effluent was 70 KL.

1<sup>st</sup> Step- We have taken all effluent in our Primary treatment tank after neutralization pH. Treated this effluent through Stripper & MEE.

Date	Running Hr	MEE Feed	FEED RATE	Condensate
02/02/23 to 04/02/23	17.5	70 KL of TDS 3.28%	4 KL/hr.	56 KL

2<sup>nd</sup> Step- Generated 56 KL Condensate. This condensate water was taken in ETP for further Biological treatment.

3<sup>rd</sup> Step- After emptying tank, same was sealed permanently after filling. Final sealed tank is shown below in the Photograph.



4<sup>th</sup> Step- 2.3 MT of MEE salt was generated and same has been stored in Hazardous Waste Room. Same shall be sent to TSD facility after approval of Hazardous Waste Authorisation.

**INCINERATOR HAS BEEN MADE FUNCTIONAL.**



Containment boundary shall be made with RCC flooring. Sprinkler shall be installed by 30-April-23. Meanwhile brick wall arrangement is being made with garden sprinkler for spraying water.







Prashant Kumar (GM HR)

Sl. No	Location	Vendor Code	Vendor Name/Employees	GRN/SE No.	GRN/SE date	Gate Entry Date	Bill no	Bill Date	Received in Finance	Amount	PO /WOM/RO	Misc Parking Date	Payment Date	Remarks
1	Sundran		Sunil Bartan Store/Empty Cylinder				426	11-06-2022		4550				Empty Gas Cylinder
2	Sundran		Sunil Bartan Store/Empty Cylinder				425	10-06-2022		4550				Empty Gas Cylinder
3	Sundran		Local Market				Nil	12-06-2022		3000				Gas
										TOTAL	12100			

BILL CHECKED FOR ₹ 12100 / *[Signature]*  
 BILL VERIFIED FOR ₹ ..... SIGN .....  
 BILL PASSED FOR ₹ ..... SIGN .....

*1915200573*  
01-07-2022

CASH/CREDIT MEMO

9888421455

8968342828

467

# SUNIL BARTAN STORE

Deals In : All Types of Crockery, Plastic & Steel items

**MAIN BAZAR, MUBARIKPUR CAMP**

No. **426**

Dated 11/06/22

To M/s. Akums Experiences Ltd

QTY.	PARTICULARS	RATE	AMOUNT Rs. P.
1050	empty containers  <i>[Signature]</i>	455/	4550
		TOTAL	4550

For **SUNIL BARTAN BHANDAR**

Customer's Signature

*[Signature]*  
Signature

CASH/CREDIT MEMO

9888421455  
8968342828

468

39

# SUNIL BARTAN STORE

Deals In : All Types of Crockery, Plastic & Steel items

**MAIN BAZAR, MUBARIKPUR CAMP**

No. **425**

Dated 10/06/22

To M/s. Akans experiences Ltd

QTY.	PARTICULARS	RATE	AMOUNT	
			Rs.	P.
1055	empty container	455/-	4550	
	<i>[Signature]</i>			
	<i>[Signature]</i>			
		<b>TOTAL</b>	<b>4550</b>	

For **SUNIL BARTAN BHANDAR**

Customer's Signature

*[Signature]*  
Signature

469

Bought विक्रेता

CASH/CREDIT  
MEMO

नकद/उधार पत्र

Sold to क्रेता

Akums Lifesciences Ltd

No. क्रमांक

Date तिथि 12/06/22

Qnty. संख्या	PARTICULARS विवरण	Rate दर	Amount रकम Rs. P.
-----------------	-------------------	------------	----------------------

20	Gas Cylinder	100	3000/-
----	--------------	-----	--------

	1.5 Kg Gas		
--	------------	--	--

*(Signature)*  
 10/6/22

Thanking You धन्यवाद

Total  
मोड 3000/-Goods once sold will not be taken back  
E.&O.E भूल चुक लेनी देनी

Signature हस्ताक्षर





















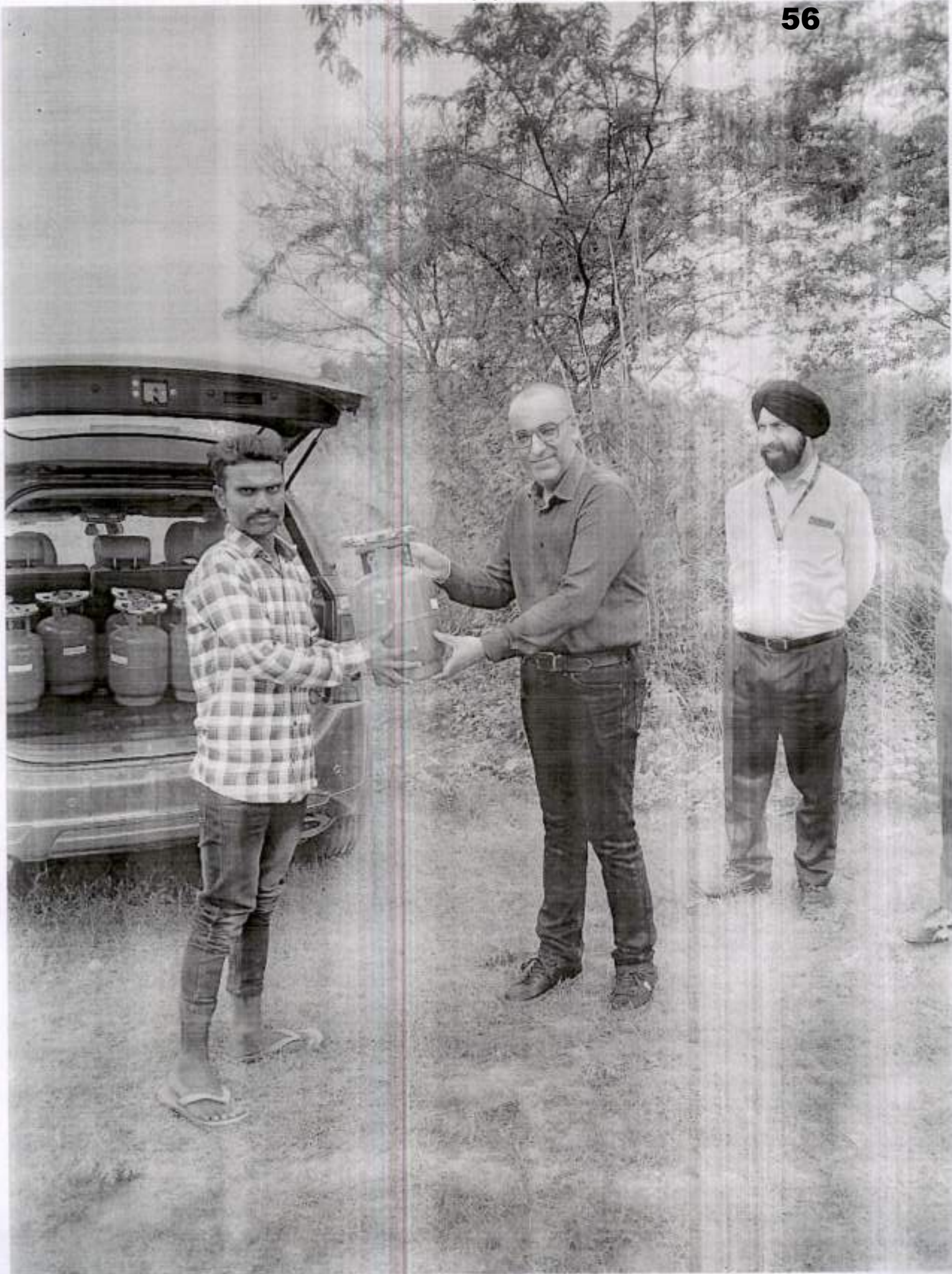


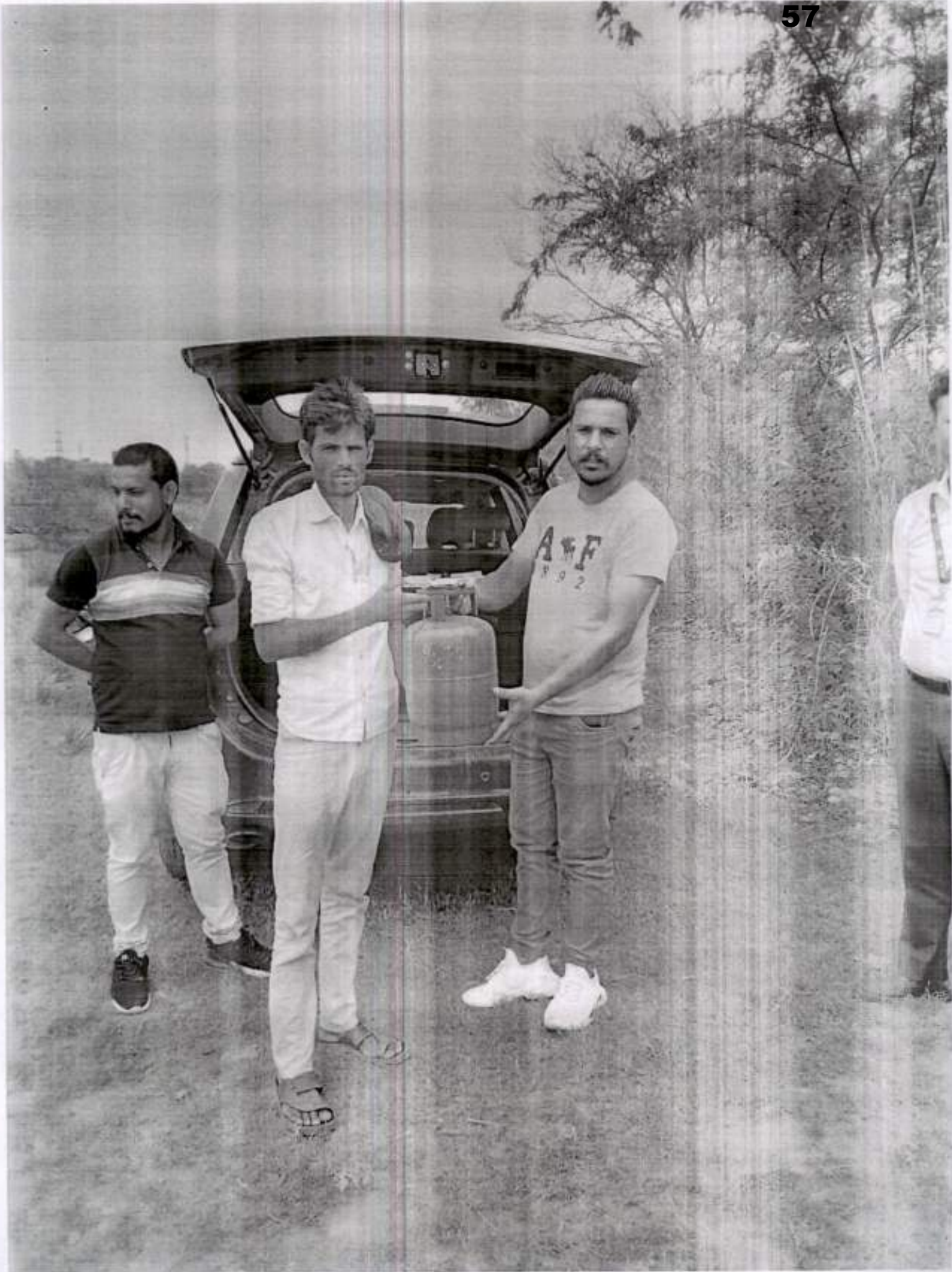


















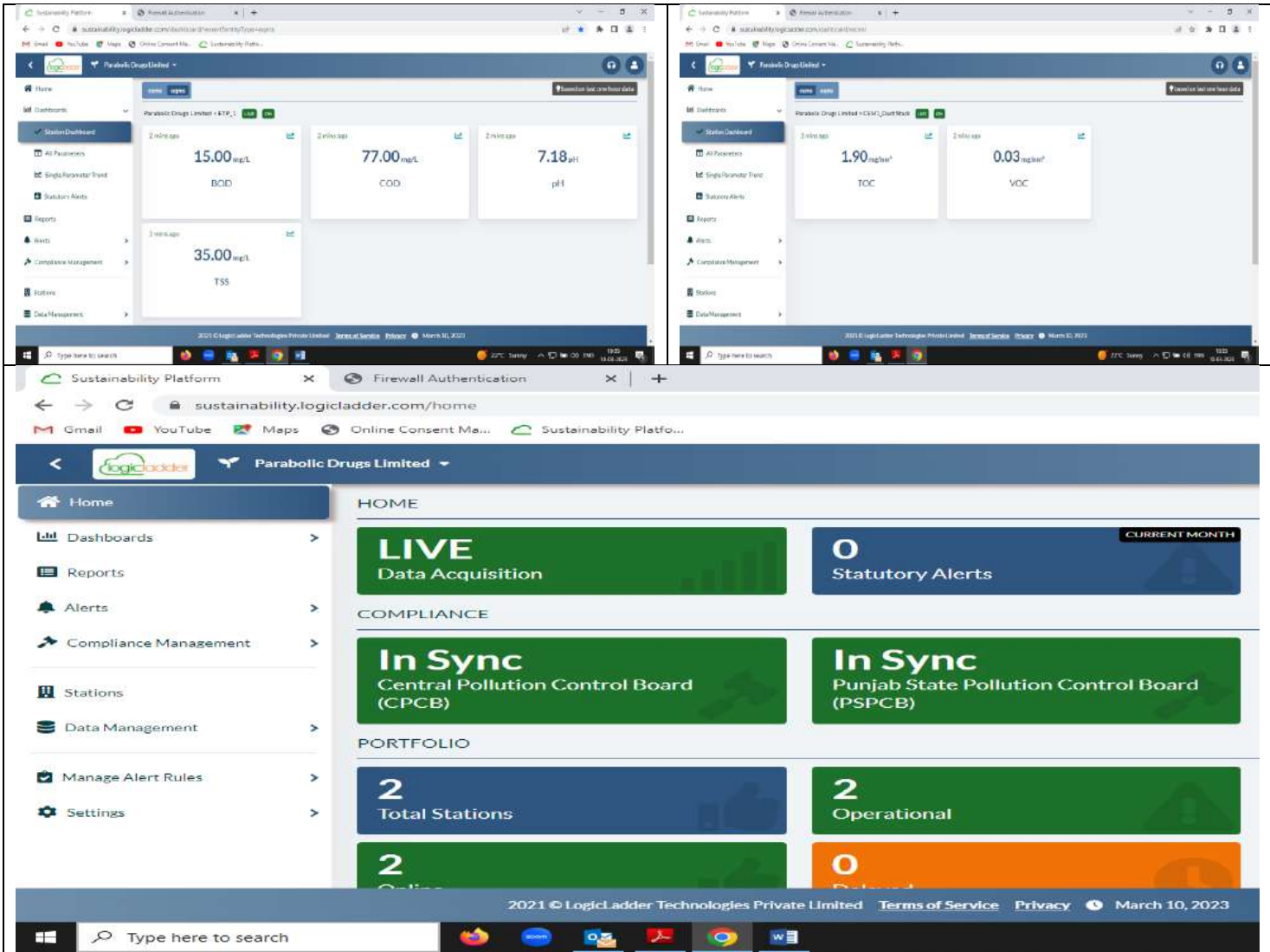
**490**

**WE HAVE DEVELOPED GARDEN AREA IN LAST ONE MONTH AND PLANTED 490 TREES IN OUR PREMISES**

**61**







ANNEXURE R3/3 (COLLY)

*Signature*

ਪੰਜਾਬ ਰਾਜ ਬਿਜਲੀ ਬੋਰਡ

ਮੁੱਖ ਇੰਜੀਨੀਅਰ/ਅਸ.ਓ. ਤੇ ਸੀ. ਪ੍ਰਾਵਰ ਕੋਲੋਕਸ਼ਨ ਅਤੇ ਕੰਟਰੋਲ ਡਾਇਰੈਕਟੋਰ, ਪੰ:ਰਾ:ਬਿ:ਬੋ: 220 ਕੇ.ਵੀ. ਸ/ਸ: ਅਬਲਵਾਲ, ਪਟਿਆਲਾ।

*Handwritten marks*

ਦੇ

ਮੈ/ਸ:- ਪੈਰਾਬੋਲਿਕ ਡਰਗਜ਼ ਲਿਮ: ਪੀ:ਓ: ਮੁਸ਼ਕਪੁਰ, ਡੇਰਾਬਸੀ, ਜਿਲਾ ਪਟਿਆਲਾ।

ਮੀਮੋ ਨੰ: 2765 /ਅਸਓ/ਪੀਆਰਜੀ/ਪੈਰਾਬੋਲਿਕ ਡਰਗਜ਼ ਮਿਤੀ: 17-5-2002

ਵਿਸ਼ਾ:- ਪੀਕ ਠੋਡ ਪਾਬੰਦੀਆਂ ਦੌਰਾਨ ਛੋਟ ਦੇਣ ਸਬੰਧੀ - ਮੈ/ਸ: ਪੈਰਾਬੋਲਿਕ ਡਰਗਜ਼ ਲਿਮ: (ਲੇਖਾ ਨੰ: ਅਏਸ-110 )।

ਸ਼੍ਰੀ ਮਾਠ ਜੀ

ਵਿੱਚ ਦੇ ਸਬੰਧ ਵਿੱਚ ਆਪਜੀ ਵੱਲੋਂ ਦਿੱਤੇ ਬੇਨਤੀ ਪੱਤਰ ਅਤੇ ਵਧੀਕ ਲਿਗ:ਇੰਜ: ਸੰਚਾਲਣ ਮੰਡਲ, ਠਾਠਲੂ ਵੱਲੋਂ ਪੱਤਰ ਨੰ: 4398 ਮਿਤੀ 03/05/2002 ਠਾਠ ਦਿੱਤੀ ਜਾਣਕਾਰੀ ਤੇ ਵਿਚਾਰ ਕਰਦੇ ਹੋਏ ਆਪਜੀ ਨੂੰ ਸਮੇ ਸਮੇ ਤੇ ਠਾਠ ਹੋਣ ਵਾਲੇ ਪੀਕ ਠੋਡ ਅੰਗਮੁਖ ਚਾਰਜਿਜ਼ ਦੀ ਅਦਾਇਗੀ ਦੀ ਸ਼ੁਰੂਤ ਤੇ ਮਿਤੀ 01/06/2002 ਅਤੇ ਉਸਤੋਂ ਬਾਅਦ ਲਈ ਪੀਕ ਠੋਡ ਆਵਰਜ਼ ਪਾਬੰਦੀਆਂ ਦੌਰਾਨ 230 ਕਿਲੋਵਾਟ(ਦੋ ਸੇ ਤੀਹ ਕਿਲੋਵਾਟ) ਡਾਰ ਦੀ ਛੋਟ ਦੇਣ ਦੀ ਮਨਜ਼ੂਰੀ ਪੀ:ਆਰ:ਸਰਕੂਲਰ ਨੰ: 2/98 ਅਤੇ 11/98 ਅਨੁਸਾਰ ਦਿੱਤੀ ਜਾਂਦੀ ਹੈ। ਚੂੰਕਿ ਆਪਜੀ ਦਾ ਉਦਯੋਗ ਪਹਿਲਾਂ ਹੀ ਇਸ ਦਫਤਰ ਵੱਲੋਂ ਲਗਾਤਾਰ ਪਰੋਸੈਸ ਥੋਸ਼ਿਤ ਕੀਤਾ ਹੋਇਆ ਹੈ, ਜੋ ਇਸ ਮਨਜ਼ੂਰੀ ਉਪਰੰਤ ਤੁਹਾਡੇ ਉਦਯੋਗ ਨੂੰ ਪਾਵਰ ਕੱਟ/ਅਮਰਜੀਸੀ ਠੋਡ ਖੈਡਿਗਜ਼ ਆਦਿ ਲਈ ਕੈਟਾਗਰੀ-4 (ਪੀ:ਆਰ:ਸਰਕੂਲਰ ਨੰ: 3/99) ਤਹਿਤ ਛੋਟ ਮਿਲੇਗੀ ਅਤੇ ਹੋਰ ਲਿਖੇ ਅਨੁਸਾਰ ਪੀ:ਐਲ:ਈ:ਸੀ. ਚਾਰਜਿਜ਼ ਵਸੂਲੇ ਜਾਣਗੇ:-

- 230 ਕਿਲੋਵਾਟ ਉੱਪਰ ਰੁਪਏ 1:80 ਪ੍ਰਤੀ ਕਿਲੋਵਾਟ ਪ੍ਰਤੀ ਘੰਟਾ ਦੇ ਗਿਸਾਬ ਨਾਠ

ਪੀਕ ਠੋਡ ਪਾਬੰਦੀਆਂ ਦੌਰਾਨ ਦਿੱਤੀ ਗਈ ਛੋਟ ਆਪਜੀ ਨੂੰ ਇਸ ਦਾ ਖੱਕਾ ਅਧਿਕਾਰੀ ਲਾਗੂ ਬਣਾਉਣੀ। ਪੰਜਾਬ ਰਾਜ ਬਿਜਲੀ ਬੋਰਡ ਨੂੰ ਇਹ ਚੱਕ ਹੋਵੇਗਾ ਕਿ ਉਹ ਇਸ ਛੋਟ ਨੂੰ ਸਿਸਟਮ ਕੰਸਟਰੋਲ ਨੂੰ ਮੁੱਖ ਰੱਖਦੇ ਹੋਏ, ਬਿਨਾ ਕਿਸੇ ਨੋਟਿਸ ਦਿੱਤੇ ਘਟਾ ਜਾਂ ਖੂਰੀ ਤਰ੍ਹਾਂ ਰੋਕ ਕਰ ਸਕਦਾ ਹੈ।

ਕਮ ਨੰ: ( 17 )

ਆਪਜੀ ਦਾ ਵਿਸ਼ਵਾਸਪਾਤਰ,

ਡਿਪਟੀ ਡਾਇਰੈਕਟਰ/ਪੀ:ਆਰ: ਮੁੱਖ ਇੰਜੀਨੀਅਰ/ਅਸ.ਓ. ਤੇ ਸੀ.।

ਪਿੱਲ ਅੰਕਣ ਨੰ: 2766/77 /ਅਸਓ/ਪੀਆਰਜੀ/ ਮਿਤੀ: 17-5-2002

ਉਪਰੋਕਤ ਦਾ ਉਤਾਰਾ ਹੇਠ ਲਿਖਿਆਂ ਨੂੰ ਸੂਚਨਾ ਅਤੇ ਜ਼ਰੂਰੀ ਕਾਰਵਾਈ ਲਈ ਭੇਜਿਆ ਜਾਂਦਾ ਹੈ ਜੀ:

- 1) ਮੁੱਖ ਇੰਜੀਨੀਅਰ/ਸੰਚਾਲਣ(ਦੁੱਖਣ) ਪੰ:ਰਾ: ਬਿ:ਬੋ: ਪਟਿਆਲਾ।
- 2) ਮੁੱਖ ਇੰਜੀਨੀਅਰ/ਈਏ ਤੇ ਇਨਫੋਰਮੇਟ, ਪੰ:ਰਾ: ਬਿ:ਬੋ: ਪਟਿਆਲਾ।
- 3) ਮੁੱਖ ਇੰਜ: /ਦੁੱਖਣ, ਬਿਲਿੰਗ ਡਾਇਰੈਕਟੋਰ, ਪੰ:ਰਾ: ਬਿ:ਬੋ: ਪਟਿਆਲਾ।
- 4) ਨਿਗਰਾਨ ਇੰਜੀਨੀਅਰ/ਸੰਚਾਲਣ ਹਲਕਾ, ਪੰ:ਰਾ: ਬਿ:ਬੋ: ਮੋਹਾਲੀ।
- 5) ਸੀ.ਕਾ:ਕਾ: ਇੰਜ:/ਇਨਫੋਰਮੇਟ, ਪੰ:ਰਾ: ਬਿ:ਬੋ: ਮੋਹਾਲੀ।
- 6) ਡਿਪਟੀ ਡਾਇਰੈਕਟਰ/ਸੀ:ਬੀ:ਸੇਠ, ਪੰ:ਰਾ: ਬਿ:ਬੋ: ਲਾਹਿਆਣਾ।
- 7) ਵਧੀਕ ਲਿਗ:ਇੰਜ: ਸੰਚਾਲਣ ਮੰਡਲ, ਪੰ:ਰਾ: ਬਿ:ਬੋ: ਠਾਠਲੂ ਨੂੰ ਉਠਾ ਦੇ ਪੱਤਰ ਨੰ: 4398 ਮਿਤੀ 3/05/2002 ਦੇ ਹਵਾਲੇ ਵਿੱਚ।
- 8) ਸਹਾਇਕ ਕਾ:ਕਾ: ਇੰਜ:/ਸੰਚਾਲਣ ਉੱਪ ਮੰਡਲ, ਡੇਰਾਬਸੀ।

ਕੋਰੀਅਰ

ਡਿਪਟੀ ਡਾਇਰੈਕਟਰ/ਪੀ:ਆਰ: ਮੁੱਖ ਇੰਜੀਨੀਅਰ/ਅਸ.ਓ. ਤੇ ਸੀ.।

- ਕਾ:ਕਾ: 1) ਡਾਇਰੈਕਟਰ/ਅਮਰਜੀਸੀ, ਪੰ:ਰਾ: ਬਿ:ਬੋ: ਪਟਿਆਲਾ।  
 2) ਵਧੀਕ ਲਿਗ:ਇੰਜ:/ਅਮਰਜੀਸੀ, ਪੰ:ਰਾ: ਬਿ:ਬੋ: ਮੋਹਾਲੀ।  
 3) ਨਿਗਰਾਨ ਇੰਜ:/ਪੀ:ਤੇ ਅਮ, ਪੰ:ਰਾ: ਬਿ:ਬੋ: ਪਟਿਆਲਾ।  
 4) ਲੇਖਾ ਅਫਸਰ/ਖੇਤਰ, ਪੰ:ਰਾ: ਬਿ:ਬੋ: ਰੋਪੜ।

From

Chief Engineer/SO & C  
Directorate of Power Regulation and Control  
PSEB 220KV s/s Ablowal,  
Patiala.

To

M/s Parabolic Drugs Ltd,  
PO Mubarakpur,  
Derabassi, Patiala.

Memo no:2765/SO/PRC/Parabolic Drugs

Date 17-05-2002

Subject: Relaxation during peak load restrictions M/s Parabolic Drugs Ltd (Note no L.S. 110)

Respected Sir,

Considering the information given by you in relation to the subject, the request form and additional Eng.: Mandal, Lalru letter No. 4398 dated 03/05/2002 applicable to you from time to time. 230 kilowatts during peak load hours on condition of payment of peak load charges on and after 01/06/2002. 98. Since your industry has already been declared a continuous process by this office, after this approval your industry will be given category-4 for power cut/emergency load shedding etc. (PR Circular No: 3/ 99) will be exempted and PLEC charges will be used as follows: -

Exemption given during non-peak load restrictions at the rate of Rs.1.80 per kWh above 230 KW does not make you a permanent authority. The Punjab State Electricity Board shall have the discretion to reduce or completely waive this exemption without giving any concrete consideration to the system casters.

Trust yourself,

Com No: (17)

Deputy Director/P. R.,

Chief Engineer/SO.

No 81 2766/77 /SO/PRC

Date: 17-5-2002

Copy of the above for information and send to necessary action to the following:

- 1) Chief Engineer/Operation (South), PSEB, Patiala.
- 2) Chief Engineer/EA and Enforcement, PSEB, Patiala.
- 3) Chief Engr./Commercial, Billing Directorate, PSEB, Patiala
- 4) Superintending Engineer/Operation Area, PSEB, Mohali.
- 5) C K K Eng/ Enforcement, PSEB, Mohali
- 6) Dept. Deputy Director/C. B. Cell, PSEB Ludhiana.
- 7) Additional Eng.: Mandal, PSEB, Lalru (Letter No. 4398 dated 03/05/2002)
- 8) ASSISTANT K K ENG : Operations In Sub Reference, Derabassi

Deputy Director/PR

Chief Engineer/SO & C

CC

1. Director/MMTS, PSEB, Patiala
2. Additional Eng/ MMTS, PSEB, Mohali
3. Superintendent Eng:/ P & M, PSEB, Patiala
4. Accounts Officer/Area, PSEB, Ropar.

## ANNEXURE R3/4 (Colly).



ਪੰਜਾਬ ਪ੍ਰਦੂਸ਼ਣ ਰੋਕਥਾਮ ਬੋਰਡ

ਜ਼ੋਨਲ ਦਫ਼ਤਰ-1, ਵਾਤਾਵਰਣ ਭਵਨ, ਨਾਭਾ ਰੋਡ, ਪਟਿਆਲਾ-147001



**LIFE**  
Lifestyle for  
Environment

Phone no. 0175-2301182

ਨੰਬਰ 8734

e-mail : ppcbpccp\_zp1@yahoo.com

ਮਿਤੀ 14/11/23

REGISTERED

To

M/s M/s Akum Life Sciences Ltd. (Erstwhile Parabolic Drugs Ltd.),  
Vill. Sundran, Mubarakpur, Tehsil Dera Bassi,  
Distt. SAS Nagar

**Subject:** Show cause notice for refusal of consent to operate applied under the Water (Prevention & Control of Pollution) Act, 1974 and the Air (Prevention & Control of Pollution) Act, 1981

**Reference:** Online Application no. 23519056 and 23884505

Whereas, it is mandatory on the part of the industry to obtain the consent to establish (NOC) of the Board as required u/s 25 of the Water (Prevention & Control of Pollution) Act, 1974 and u/s 21 of the Air (Prevention & Control of Pollution) Act, 1981, for establishment of an industrial unit.

And whereas, it is mandatory on the part of the industry to obtain the consent of the Board to operate an outlet/ plant as required u/s 25 of the Water (Prevention & Control of Pollution) Act, 1974 and u/s 21 of the Air (Prevention & Control of Pollution) Act, 1981, for discharge of effluent/ emissions arising from its premises.

And whereas, it is also mandatory on the part of the industry to install adequate and appropriate effluent treatment facilities/ air pollution control devices, so as to ensure that the concentration of various pollutants in the effluent/ emissions discharged from the industry is within the permissible limits prescribed by the Board.

And whereas, earlier, the industry was found violating to the provisions of the Water (Prevention & Control of Pollution) Act, 1974 and the Air (Prevention & Control of Pollution) Act, 1981. As such, the direction u/s 33-A of the Water (Prevention & Control of Pollution) Act, 1974 were issued to the industry vide Board's letter no. 2767 dated 21/4/2023 for closure of the unit alongwith disconnection of the electricity connection.

And whereas, upon compliance, the industry was granted consent to operate under the Water (Prevention & Control of Pollution) Act, 1974 vide no. CTOW/Fresh/PBIP/SAS/2023/2304888552 dated 16/6/2023 and the Air (Prevention & Control of Pollution) Act, 1981 vide no. CTOA/Fresh/PBIP/SAS/2023/ 2304917502 dated 16/6/2023, valid upto 16/10/2023 for production of Cefepime Hydrochloride @ 30 Kgs/day, Cefrozil @ 20 Kgs/day, Cefpodoxim e Proxetil @ 100 Kgs/day, Ceftriaxone Sodium @ 100 Kgs/day, Cefixime @ 80 Kgs/day, Cefdinir @ 10 Kgs/day, Cefuroxime Axetil Amorphous @ 126.67 Kgs/day, with certain conditions mentioned therein.

And whereas, simultaneously, the Board directed to PSPCL authorities to restore the the electric connection of the industry temporarily upto 16/10/2023 vide no. Board's 3540 dated 17/5/2023.

And whereas, the industry has now applied for renewal of consent to operate under the Water (Prevention & Control of Pollution) Act, 1974 and the Air (Prevention & Control of Pollution) Act, 1981 with same products alongwith requisite documents.

And whereas, earlier O.A no. 105/2023 titled as M.L Dhiman v/s State of Punjab was disposed of by Hon'ble National Green Tribunal vide order dated 16/3/2023.

And whereas, Hon'ble National Green Tribunal has admitted miscellaneous application, M.A no. 70/2023 in the matter. The said matter was listed on 1/9/2023 and Hon'ble NGT has passed following orders:

1. "The Tribunal, while disposing of the original application by order dated 16.03.2023, had directed the State Pollution Control Board and District Magistrate, Mohali to look into the matter particularly with reference to mode of disposal of effluent as per CTO granted and take remedial action concerning the discharge of chemical effluent by AKUMS Life Science Ltd., Village Sundran, Tehsil Dera Bassi, District Mohali, Punjab. There was a further direction to file the report by observing as follows:

"XXX.....XXX.....XXX

3. An action taken report may be filed with the Registrar General, NGT by GT by e-mail at judicial-ngt@gov. in preferably in the form of searchable PDF/OCR Support PDF

and not in the form of Image PDE within two months. If any further direction is found necessary, he may place the matter before the Bench."

2. On the perusal of report filed in pursuance to the above direction, we find certain contradictions therein. Therefore, let notice be issued to the Member Secretary, Punjab State Pollution Control Board appearance through physical/virtual mode on the next date.

And whereas, the case is now listed for hearing before the Hon'ble National Green Tribunal, New Delhi on 21/11/2023.

And whereas, the site of the industry was visited by officer of the Board on 6/11/2023 and during visit, it was observed as under:

- 1) The unit is engaged in manufacturing of API and bulk drugs & is in operation during visit.
- 2) The industry has installed 02 no. tubewells near the main entrance. EMF flow meter has been installed at common line from both the tubewells (Current reading- 49844.55). As per the records maintained by the industry, around 95-100 KLD of freshwater is being abstracted by the industry.
- 3) The industry has installed MEE for treatment of HTDS being generated from its process.
- 4) The industry has installed an ETP followed by RO system for treatment of low TDS effluent being generated from its premises. Further, MEE condensate is also being treated in the ETP. ETP installed by the industry was in operation during the visit.
- 5) The industry has installed OCEMS at RO condensate line and the readings of the OCEMS reading were noted as BOD-25; COD- 113; pH- 8.92
- 6) The industry is reusing its entire RO permeate as cooling tower makeup in its premise and RO reject is being sent to MEE for treatment alongwith HTDS.
- 7) The industry has 02 no. of clarifiers, i.e. primary as well as secondary. During visit, it was observed that the wiers of both the clarifiers are not uniform.
- 8) The structures of old ETP are lying near the MEE area. The industry was previously also told to get these old structures removed from the site, but the industry has failed to do so, till date.
- 9) The entire steam from ATFD is discharged into air and then is no mechanism for recovery of steam from ATFD.
- 10) There was leakage hear the MEE area due to leakage in pumps, leading to stagnation in the area.
- 11) There was also leakage in the tank storage area (i.e. MEE condensate and concentrate storage tanks), leading to stagnation in the area.
- 12) There was some stagnation on backside of sterile manufacturing plant. The said effluent was slightly greenish in colour.
- 13) The industry has constructed one no. shed for storage of solvent drums. However, during visit, it was observed that some drums are also stored in open area, without shed.
- 14) There is leakage from cooling tower near the SRP area. The overflow of cooling town leakage is spilled all over the movement area, leading to stagnation near utility area.
- 15) The industry has kept heaps of drums (many drums) in scrap yard, haphazardly. The said drums are of category 33.1 hazardous waste. Further, glass wool is also lying thrown in the said scrap yard area, in open space in haphazard manners.
- 16) The industry has installed a boiler of capacity 6 TPH in its premises. Thick black smoke was seen coming out from the boiler, from outside the premises.
- 17) There is an old thermopack near ETP, which is in non-operational state currently. Further, there are 02 boilers of capacity 03 TPH & 1.5 TPH near main entrance, both of which are not operational.
- 18) The incinerator installed by the industry was not in operation during the visit.
- 19) The industry is keeping its boiler ash in open area, where water sprinkling is done. however, boiler ash was seen scattered near the ash storage also. The industry was advised to explore possibility of installing an ash storage silo, for scientific and environmentally sound storage of boiler ash.

And whereas, the industry is not complying with the provisions of the Water (Prevention & Control of Pollution) Act, 1974 and the Air (Prevention & Control of Pollution) Act, 1981 as well as not complied with the conditions mentioned in the consent to operate earlier granted to it under the Water (Prevention & Control of Pollution) Act, 1974 and the Air (Prevention & Control of Pollution) Act, 1981.



## ਪੰਜਾਬ ਪ੍ਰਦੂਸ਼ਣ ਰੋਕਥਾਮ ਬੋਰਡ

ਜ਼ੋਨਲ ਦਫ਼ਤਰ-1, ਵਾਤਾਵਰਣ ਭਵਨ, ਨਾਭਾ ਰੋਡ, ਪਟਿਆਲਾ-147001

Phone no. 0175-2301182

ਨੰਬਰ 8779



**LIFE**  
Lifestyle for  
Environment

e-mail : ppbssee\_zp1@yahoo.com

ਮਿਤੀ 15/11/23

REGISTERED

To

M/s Akum Life Sciences Ltd. (Erstwhile Parabolic Drugs Ltd.),  
VIII. Sundran, Mubarakpur, Tehsil Dera Bassi,  
Distt. SAS Nagar

**Subject:** Show cause notice for refusal of renewal of authorization granted under the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016

**Reference:** Online Application no. 23889033

Whereas, it is mandatory on the part of the industry to obtain the authorization of the Board for handling & management of hazardous waste(s) under the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.

And whereas, it is also mandatory on the part of the industry to provide adequate and appropriate effluent treatment facilities, so as to contain the various pollutants within the standards laid down by the Board, in the effluent discharged by the industry as well as to provide adequate appropriate arrangements for collection, storage, treatment & disposal of the hazardous waste(s) generated by it.

And whereas, the the unit was previously operated by M/s Parabolic Drug Ltd., which had obtained authorization under Hazardous and Other Wastes (Management and Tran boundary Movement) Rules, 2016 HWM/Auth/PBIP/SAS/2023/2306878133 dated 14/8/2023, valid upto 16/10/2023 under Category - 5.1-Used or Spent Oil @ 0.78 KL/Annum, Category 20.3 Distillation residue @ 109.2 TPA, Category 28.1 MEE sludge @ 109.9 TPA, Category 28.2 Spent Catalyst & Carbon @ 0.39, Category 28.3 Off specification material @ 1.3 TPA, Category 28.5 Spent Organic Solvent @ 98.15 TPA, Category 33.3 Empty Drums & Polythene Bags 780 No./ year & @ 0.135 TPA, Category 33.4- ETP Sludge @ 0.975 TPA, Category 35.1 Filter bags & filters @ 0.195 TPA and Category 36.2 Incinerator ash @ 3.12 TPA, subject to certain conditions mentioned therein.

And whereas, the said unit has been taken over by M/s Akum Lifesciences Ltd. The industry was lastly granted consent to operate under the Water (Prevention & Control of Pollution) Act, 1974 vide no. CTOW/Fresh/PBIP/SAS/2023/2304888552 dated 16.06.2023 and under Air (Prevention & Control of Pollution) Act, 1981 vide no. CTOA/Fresh/PBIP/SAS/2023/2304917502 dated 16/6/2023, valid upto 16/10/2023 for production of Cefepime Hydrochloride @ 30 Kgs/day, Cefrozil @ 20 Kgs/day, Cefpodoxim e Proxetil @ 100 Kgs/day, Ceftiaxone Sodium @ 100 Kgs/day, Cefixime @ 80 Kgs/day, Cefdinir @ 10 Kgs/day, Cefuroxime Axetil Amorphous @ 126.67 Kgs/day. The application of the industry for obtaining renewal of consent to operate are under process.

And whereas, the industry had now applied for obtaining renewal of authorization under Hazardous & Other Wastes (Management & Transboundary Movement) Rules, 2016 for generation, collection, storage & disposal of different category.

And whereas, earlier O.A no. 105/2023 titled as M.L Dhiman v/s State of Punjab was disposed of by Hon'ble National Green Tribunal vide order dated 16/3/2023.

And whereas, Hon'ble National Green Tribunal has admitted miscellaneous application, M.A no. 70/2023 in the matter. The said matter was listed on 1/9/2023 and Hon'ble NGT has passed following orders:

1. "The Tribunal, while disposing of the original application by order dated 16.03.2023, had directed the State Pollution Control Board and District Magistrate, Mohali to look into the matter particularly with reference to mode of disposal of effluent as per CTO granted and take remedial action concerning the discharge of chemical effluent by AKUMS Life Science Ltd., Village Sundran, Tehsil Dera Bassi, District Mohali, Punjab. There was a further direction to file the report by observing as follows:

"XXX.....XXX.....XXX

3. An action taken report may be filed with the Registrar General, NGT by GT by e-mail at judicial-ngt@gov. in preferably in the form of searchable PDF/OCR Support PDF and not in the form of Image PDE within two months. If any further direction is found necessary, he may place the matter before the Bench."
2. On the perusal of report filed in pursuance to the above direction, we find certain contradictions therein. Therefore, let notice be issued to the Member Secretary, Punjab State Pollution Control Board appearance through physical/virtual mode on the next date.

And whereas, the case is now listed for hearing before the Hon'ble National Green Tribunal, New Delhi on 21/11/2023.

And whereas, the site of the industry was visited by officer of the Board on 6/11/2023 and during visit, it was observed as under:

- 1) The industry is engaged in manufacturing of bulk drugs and was in operation during the visit.
- 2) The industry has provided 03 no. of storage rooms for storage of Hazardous waste being generated from the unit and as per the record maintained by the industry, the details are tabulated as under:

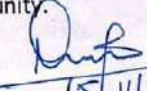
HAZARDOUS WASTE DETAILS				
Sr. no.	Category of waste	Quantity of last lifting	Dated	Present storage
1.	35.3	5.84 MT to TSDF	04.11.2023	0.713 MT
2.	37.2	0.365 MT to TSDF	22.08.2023	0.1639 MT
3.	37.3	9.47 Tonnes (TSDF)	31.10.2023	7.235 MT
4.	5.1	-	-	NIL
5.	25.3	Captive Incinerator	-	NIL

- 3) The industry has provided all the three storage rooms with proper lock and key facilities and all of these are pucca from bottom and properly covered from all sides.
- 4) Hazardous waste category 37.3 was found stored in non-HDPE bags and no marking/numbering was found on the bags.
- 5) The industry was found storing hazardous waste of category 35.3 stored in open area in traupaulin sheet for sun drying.
- 6) The industry has kept heaps of drums in scrap yard, haphazardly. The said drums are of category 33.1 hazardous waste. Further, glass wool is also lying thrown in the said scrap yard area, in open space in haphazard manners.

And whereas, the industry is not complying with the provisions of the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 as well as conditions mentioned in the authorization granted to it under the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016. Thus, violating the provisions of the said Rules intentionally and deliberately.

And whereas, it has now been proposed to refuse renewal of authorization applied under the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 after affording an opportunity of show cause-cum-personal hearing.


As such, you are, hereby, afforded an opportunity to appear in person before the **Chairman of the Board in his office at Punjab Pollution Control Board, Vatavaran Bhawan, Nabha Road, Patiala on 20/11/2023 at 12.00 noon** to explain your failure to comply with provisions of the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016, failing which, it will be presumed that the industry has nothing to say in the matter and further action under the provisions of the said Acts, will be taken against the industry, without any further notice/ opportunity.

  
 15/11/23  
 Environmental Engineer  
 for & on behalf of the  
 Punjab Pollution Control Board

Endst. no. \_\_\_\_\_

Dated \_\_\_\_\_

A copy of the above is forwarded to the Environmental Engineer, Punjab Pollution Control Board, Regional Office, SAS Nagar for information and necessary action. It is requested to get the copy of the notice delivered to the industry through special messenger/ e-mail/ WhatsApp and send the receipt of the same to this office and also ensure its presence on the said date and time of hearing. It is also requested to submit his comments on the reply to be submitted by the industry w.r.t. notice and send fresh recommendations accordingly to enable this office to decide the application.

  
 Environmental Engineer  
 for & on behalf of the  
 Punjab Pollution Control Board



# Akums Lifesciences Limited

(A Subsidiary of AKUMS Drugs & Pharmaceuticals Ltd.)

Regd. Off. : Brij Business Centre, SCO 144-145, 2nd Floor,  
Cabin No. 209, Sector 34-A, Chandigarh  
Ph. : +91 88590 00568 E-mail : info.api@akums.in

CIN No. : L24231CH1996PLC017755

To

Date: 18- Nov-2023

Zonal Office  
Senior Environmental Engineer,  
Punjab Pollution Control Board,  
Zonal Office-I Vatavaran Bhawan,  
Nabha Road, Patiala

*Aggr Kaur - Sr Asstl  
20-11-23 28-I*

**Subject: Reply to the show cause Notice for refusal of consent to operate applied under Water (Prevention & Control of Pollution) Act, 1974 and u/s 31-A of the Air (Prevention & Control of pollution) Act, 1981 to our unit namely M/s. Akums Lifesciences Ltd, Village Sundran, Tehsil DeraBassi, Distt. SAS Nagar.**

**Reference:** 1. Show cause Notice No 8734 dated 14/11/23  
2. Online Application no. 23519056 & 23884505.

Dear Sir,

In connection with notice issued directions u/s 33-A of the Water (Prevention & Control of Pollution) Act, 1974 and u/s 31-A of the Air (Prevention & Control of pollution) Act, 1981 & u/s 5 of the Environment (Protection) Act, 1986 for violation of the above provision in our unit namely M/s. Akums Lifesciences Ltd, Village Sundran, Tehsil DeraBassi, Distt. SAS Nagar, it is submitted as under:

Sr.No.	Observation	Compliance Status
1	The unit is engaged in manufacturing of API and bulk drugs & its in operation during visit.	Noted
2	The industry has installed 02 no. tube wells near the main entrance. EMF flow meter has been installed at common line from both the tube wells (Current reading: 049844.55). As per the records maintained by the industry, around 95-100 KLD freshwater is being abstracted by the industry.	Noted
3	The industry has installed MEE for treatment of HTDS being generated from its process.	Noted

For Akums Lifesciences Ltd.

*[Signature]*  
Auth. Signatory


Unit I : Vill. Sundran, P.O. Mubarakpur, Tehsil Derabassi, Distt. SAS Nagar, Punjab - 140 201 (India)

Unit II : Vill. Chachrauli, P.O. Jeoli, Tehsil Derabassi, Lalru, Distt. SAS Nagar, Punjab - 140 501 (India)

Unit III : 280-281, HSIIDC, Tehsil Barwala, Distt. Panchkula, Haryana - 134 118 (India)

4	The industry has installed an ETP followed by RO system for treatment of low TDS effluent being generated from its premises. Further, MEE condensate is also being treated in the ETP. ETP installed by the industry was in operation during the visit.	Noted
5	The industry has installed OCEMS at RO condensate line and the readings of the OCEMS reading were noted as BOD-25; COD.- 113; pH- 8.92.	Noted
6	The industry is reusing its entire RO permeate as cooling tower makeup in its premise and RO reject is being sent to MEE for treatment along with HTDS.	Noted
7	The industry has 02 Nos. of clarifier, Primary & Secondary. Weir of both the clarifiers are not uniform.	We are already in process to make the level of the weir of Primary and Secondary clarifiers uniform so as to use the entire circumference of both these clarifiers for proper and effective operation. Work in this regard will be completed by 30.11.2023.
8	The structures of old ETP are lying near the MEE area. The industry was previously also told to get these old structures removed from the site, but the industry has failed to do so, till date.	We would like to clarify that there is no Old ETP structure but there is one old MEE structure, which is lying idle. This MEE was working before we installed new MEE in 2022. The unit is in the process to refurbish the same and discussions in this regard are being held with the vendor. In case we find the suitable and economical solution for refurbishing the same, we will keep this as a standby arrangement instead of discarding the same.
9	The entire steam from ATFD is discharged into air & then no mechanism for recovery of steam from ATFD. The industry has been advised to device mechanism for recovery of steam	As explained during the visit, we are spending Rs. 1.6 Crores against upgradation of this equipment. PO Copy attached as Annexure I
10	There was leakage near the MEE area due to leakage in pumps, leading to stagnation in the area.	The pumps used for forced circulation system of MEE are having mechanical seals and leakages may occur from the mechanical seals of these pumps. In order to collect the wastewater due to leakages from these pumps, a channel has already been provided, which is connected to a tank for collection of wastewater due to leakages from pumps. The wastewater collected in this tank is again taken in the feed tank of MEE. Therefore, this collection tank of wastewater is an integral part of the MEE components.

For Akums Lifesciences Ltd.

  
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				A photographic evidence of channel, collection tank and pumping arrangement is attached herewith as <b>Annexure-II</b> .
11	There was also leakage in the tank storage area (i.e. MEE condensate and concentrate storage tanks), leading to stagnation in the area			The condensate tank is surrounded by a dyke wall to collect the condensate which is water if any overflowed from the said tank. Due to overflow of condensate from the tank, water got accumulated within the dyke wall. In order to avoid such overflow of condensate, we have now provided level indicator to rule out the possibility of overflowing the condensate from the tank. A photographic evidence of the level indicator, is attached herewith as <b>Annexure-III</b> .
12	There was some stagnation on backside of sterile manufacturing plant. The said effluent was slightly greenish in colour.			There is no wastewater stream on the backside of the Sterile plant, the discharge of which may cause stagnation in the premises of the unit. In fact, due to some fault in the pumping system installed on the storage tank of DM water, some quantity of DM water overflowed and the same caused stagnation. This was the water to be used in the utility and the process and it doesn't have any pollutant leading to make it wastewater. Therefore, due to stagnation algae growth occurred which was reflecting as greenish colour. Necessary remedial measures have been taken and there is no possibility of overflowing of DM water from the storage tank. The stagnation noticed during visit has been removed and this water has been taken in the collection tank of the BTP for treatment. A photograph showing the evidence with regard to compliance made, is attached herewith as <b>Annexure-IV</b> .
13	The industry has constructed one no. shed for storage of solvent drums. However, during visit it was observed that some drums are also stored in open area, without shed.			There were drums filled with solvent and few drums were in transit. All drums were closed properly with lid and labels. Now, necessary instructions have been issued to the persons responsible for handling of such type of drums to keep them only in the earmarked storage area while transporting from the processing area to this earmarked storage area without placing them at any other location during transit.

For Akums Lifesciences Ltd.

  
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				A photographic evidence of the earmarked storage area, is attached herewith as <b>Annexure-V.</b>
14	There is leakage from cooling tower of SRP. The overflow of cooling tower leakage is spilled all over the movement area, leading to stagnation near Utility area.			Due to damaging of side protection panel, some quantity of cooling water was coming outside the cooling tower, which was collected in a collection tank for further sending to the ETP for treatment. Now, the side protection panel has been replaced with new one to rule the possibility of overflow of water from the cooling tower.
15	The industry has kept heaps of drums (many drums) in scrap yard, haphazardly. The said drums are of category 33.1 hazardous waste. Further, glass wool is also lying thrown in the said scrap yard area, in open space in haphazard manners			All these drums have been shifted and stored in the storage facility and necessary instructions have been issued to the responsible persons handling the hazardous waste not to store any contaminated drum in the scrapyard. A photographic evidence of this area showing the compliance made, is attached herewith as <b>Annexure-VI.</b>
16	The industry has installed a boiler of capacity 6 TPH in its premises. Thick black smoke was seen coming out from the boiler, from outside the premises			Sometimes soot blowing is required to be carried out to remove the deposits on the tubes of the Boiler during combustion so as to improve the proper combustion of fuel and transfer of heat from furnace to tubes of the Boiler. Such practice is required to be carried out once in a blue moon and it is not regular phenomenon. However, in future such soot blowing will be done gently with low pressure of air to rule out the possibility of generation of black smoke from the boiler furnace.
17	There is an old Thermopack near ETP, which is in non-operational state currently. Further, there are 02 boilers of capacity 03 TPH & 1.5 TPH near main entrance, both of which are not operational.			Thermopack is meant for high temperature reaction and as of now no such product is being manufactured. However, we can use this Thermopack as and when we will manufacture product involving high temperature reaction. Therefore, this Thermopack has been installed. Boiler of 3 TPH capacity is under refurbishing process and will be used after refurbishing as per requirement. However, 1.5TPH boiler shall be dismantled and removed from the premises.
18	The incinerator installed by the industry was not in operation during the visit.			Noted. Since there was no requirement during that time, incinerator was not in Operation.
19	The industry is keeping its boiler ash in open area, where water sprinkling is done. however, boiler ash was seen scattered near			The scattering of fuel ash was due to attachment of ash particle with the tyres of the tractor/ trailer and loading of ash in the

For Akums Lifesciences Ltd.


  
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	advised to explore possibility of installing an ash storage silo, for scientific and environmentally sound storage of boiler ash.	already been provided to suppress the emissions of ash during loading in the trailer. We have already initiated process to upgrade/strengthen the water sprinkling system by increasing the no. of nozzles and by providing vehicle tyre cleaning facility.
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It is also submitted that the OA no. 105/2023 dated 16/3/2023 of the Hon'ble NGT, which is based on the complaint submitted by Sh. M.L. Dhiman submitted to the Hon'ble NGT, wherein, the complainant has mentioned that due to water pollution caused by M/s Akums Life Sciences Pvt. Ltd., the animals had died and deceases are spreading in the area. We reject the claim made by the complainant as this is false. In this regard, it is also submitted that the PPCB is regularly monitoring the ground water quality within the premises of the unit and the same has been found meeting with the prescribed standards. The industry has also got the ground sampling done from M/s Affinitee Laboratories Pvt Ltd., on 07.06.2023 and as per analysis results, the ground water quality is conforming to the standards prescribed in IS: 10500-2012. Therefore, the claim of the complainant is totally incorrect, baseless and with hidden malafide intention.


We at Akum Life Sciences Ltd. (erstwhile Parabolic Drugs Ltd.) are committed to comply with all the statutory requirements and fulfill them in total. Till date we have invested Rs 5.6 Crores in upgrading Effluent Treatment Facility. Additionally Rs 1.6 Crs is being invested for further system upgradation. **Our endeavor is to be a global organization following all social and environment compliance.**

We have already applied for a renewal for consent to operate for Air and water and also for Hazardous Waste Authorization, we request your good self to approve consent and authorization.

Thanking you,

Yours Sincerely,

For AKUMS LIFE SCIENCES LTD,

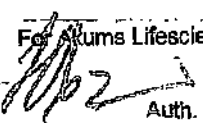
For Akume Lifesciences Ltd.  
  
 Authorized Signatory, Auth. Signatory

Annexure - I

<b>Akums Lifesciences Limited(ALL-1)</b>	
Village-Sundran, Post Office Mubarakpur Tehsil-DeraBassi, District-SAS Nagar DERABASSI Punjab India 140507	
Ph N.o :	E-Mail :
GSTIN No. : 03AACCPL419K127	Mfg Lic No
CIN No. : L24231CHL996FLC017755	
<b>PURCHASE ORDER</b>	
111671 Vendor GSTIN No. 24ADIPPO28PH12K KETA CONSULTANT PLOT NO 21-23-26-27-28, BLOCK NO 519, JUNA BABALPURA PATIA, VILLAGE SARA GANDHINAGAR 382305 Gujarat 9687671384 service@ketaconsultant.in	PURCHASE ORDER 3500000531 P.O.DATE 14.11.2023  Our PAN No. : AACCP1419K State Code : 03


SNo.	Item Description	UOM	Quantity	Acceptance Limit + %	Rate INR	Del.Date	Amount INR
1	AGITATED THIN FILM DRYER CAP1300kg/hr Specification-12MFD 1300 Kgs/hr Zero Liquid Discharge Area- 30 Sq mtr. Mat.No: 60047846 HSN No: 8419 JIG @ 18%	KGS	1.000	0.0	16000000.000	30.03.2024	16000000.00

<p><b>PAYMENT TERMS :</b> Manual Payment Term Incoterms : FOB - Free on Road / AT PLANT SITE Payment Terms :- 15 % advance against ABG for 02 Month with the order. 75 % against Performa Invoice Prior to dispatch with taxes and after inspection of Equipment by AKUMS Team (If Require). 10% against ABG for 12 Month After Successful Commissioning</p> <p>Rate ref as per attached offer and further discussion held with vendor. <b>NOTE : ALL THE MATERIAL DELIVERY 120 DAYS AND COMPLETION OF JOB 30 DAYS</b></p> <p>4 P and F - INCLUDED 5 GST Extra as applicable @ 18% 6 FREIGHT - INCLUDED 7 Transit Insurance @ INCLUSIVE</p>	<p>Total Item Value 16,000,000.00 IN: Integrated GST 2,880,000.00</p>
	<p><b>Grand Total 18,880,000.00</b></p>
<p>(INR. ONE CRORE EIGHTY-EIGHT LAKE EIGHTY THOUSAND RUPEES AND ZERO PAISE)</p>	
<p>NOTE: MANUALS : ORIGINALS MANUALS TO BE SEND WITH MACHINE WITHOUT ANY ADDITIONAL COST. WARRANTY: ONE YEAR WARRANTY FROM THE DATE OF INVOICE (INCLUSIVE ALL REQUIRED SPARES AND CONSUMABLES)</p>	

For Akums Lifesciences Ltd.  
  
Auth. Signatory


PURCHASE ORDER	
111671 Vendor GSTIN No. 24AD1PP0287115H KETAV CONSULTANT PLOT NO 21-25-26-27-28, BLOCK NO 518, JUNA BABALPURA PATIA, VILLAGE SAPA GRANDHINAGAR 382305 Gujarat 9587671384 services@ketavconsultant.in	PURCHASE ORDER 350000531 P.O.DATE 18.11.2023  UNAUTHORIZED PO Our PAN No. : AACCP1419K State Code : 03
<p>TERMS AND CONDITIONS -</p> <p>1.) DESIGN QUALIFICATION # DOCUMENT TO BE SUBMITTED TO AKUMS LIFESCIENCES TEAM FOR APPROVAL, BEFORE STARTING THE MANUFACTURING OF EQUIPMENT</p> <p>2.) FACTORY ACCEPTANCE TEST/SITE ACCEPTANCE TEST PROTOCOL # DOCUMENT TO BE FORWARDED TO AKUMS LIFESCIENCES FOR INSPECTION / TEST AT VENDORS SITE OR AT AKUMS LIFESCIENCES SITE AS THE CASE MAY BE WHEN THE EQUIPMENT IS READY FOR TEST AT VENDORS SITE BEFORE DESPATCH.</p> <p>SUBMITTAL SHOULD INCLUDE #</p> <p>I. TEST PROCEDURE, II. ACCEPTANCE CRITERIA, III. GA DRAWING, P&lt;(&gt;)&gt;I DIAGRAM, CONTROL CIRCUIT DIAGRAM AND IV. SAFETY DEVICES &lt;(&gt;)&gt; INTERLOCKS FOR THE EQUIPMENT OFFERED FOR INSPECTION</p> <p>3.) INSTALLATION QUALIFICATION # DOCUMENT TO BE SUBMITTED WITH ALL THE DRAWINGS CORRECTED AS BUILT AS PER COMMENTS AGAINST FAX / SAT AS IN (2) ABOVE, ALONG WITH</p> <p>I. CALIBRATION CERTIFICATES FOR ALL THE INSTRUMENTS, CONTROL &lt;(&gt;)&gt; SAFETY DEVICES ETC, II. OPERATION &lt;(&gt;)&gt; MAINTENANCE MANUAL, PREVENTIVE MAINTENANCE &lt;(&gt;)&gt; MACHINE TROUBLE SHOOTING PROCEDURE, III. ACCEPTANCE CRITERIA OF INSTALLATION QUALIFICATION, IV. FINAL/CORRECTED P&lt;(&gt;)&gt;I DIAGRAM, CONTROL CIRCUIT SLD, GA DRAWING, V. SPECIFICATION SHEETS/BROCHURES OF ALL THE BOUGHT OUT ITEMS FOR THE MACHINE, VI. MANUFACTURER &lt;(&gt;)&gt; OEM SUPPLIERS CONTACT PERSON WITH PHONE NUMBER &lt;(&gt;)&gt; ADDRESS ETC, VII. CERTIFICATE OF COMPLIANCE TO 21 CFR, PART-11 (IF APPLICABLE TO THE EQUIPMENT UNDER SUBJECT). SOFT WARE CD AS APPLICABLE.</p> <p>4.) OPERATIONAL QUALIFICATION # DOCUMENT TO BE SUBMITTED WHICH INCLUDES</p> <p>I. TEST PROCEDURE, II. ACCEPTANCE CRITERIA, III. UTILITIES AND SERVICES, IV. CONSUMPTION OF CONSUMABLES, V. MACHINE OUTPUT CAPACITY, EFFICIENCY, VI. CHANGE OVER TIME, VII. GMP COMPLIANCE CRITERIA WITH SIGN OFF OF THE TEST RESULTS VIII. SAFETY COMPLIANCE CRITERIA WITH SIGN OFF OF THE TEST RESULTS</p> <p>5.) PERFORMANCE QUALIFICATION - DOCUMENT TO BE SUBMITTED WHICH INCLUDES PROCEDURE TO ASCERTAIN THE VARIOUS PERFORMANCE PARAMETERS,</p> <p>I. REPEATABILITY OF RESULTS CONFORMANCE TO ACCEPTANCE CRITERIA FOR MACHINE OUTPUT &lt;(&gt;)&gt; DURABILITY, II. UTILITIES AND SERVICES, III. CONSUMPTION OF CONSUMABLES, IV. MACHINE OUTPUT CAPACITY, V. EFFICIENCY, CHANGE OVER TIME, VI. GMP COMPLIANCE AND SAFETY COMPLIANCE</p> <p>6.) PACKING AND FORWARDING-INCLUSIVE 7.) FREIGHT : INCLUSIVE</p>	

For Akums Lifesciences Ltd.


 Auth. Signatory

PURCHASE ORDER	
111671 Vendor GSTIN No. 24ADIPP0287412H KETA V CONSULTANT PLOT NO 21-25-26-27-28, BLOCK NO 516, JUNA BABELPURA PATIA, VILLAGE SARPA GANDHINAGAR 382305 Gujarat 9687671384 service@ketavconsultant.in	PURCHASE ORDER 3500000531 P.O.DATE 18.11.2023  UNAUTHORIZED PO Our PAN No. : AACCP1419X State Code : 03
<p>8.) INSTALLATION AND COMMISSIONING INCLUSIVE AT DERA BASTI SITE.            9.) MANUFACTURING DOCUMENTS COMPLETE INSTALLATION AND COMMISSIONING MANUAL. TEST CERTIFICATE FOR BOUGHT OUTS AND SS MATERIALS, CALIBRATION CERTIFICATE FOR ALL THE GADGETS, SENSORS AND INSULATION. DG, FAT AND SAT            10.) TRANSIT INSURANCE : IN OUR SCOPE (YOU WILL INTIMATE US BEFORE DISPATCH OF MATERIAL FOR TRANSIT INSURANCE PARTICULARS.            11.) QUALIFICATION DOCUMENTS : ALL THE DOCUMENTS DQ/IQ/OQ/PQ AND MOC TEST CERTIFICATES INCLUSIVE WITHOUT ANY ADDITIONAL CHARGES.            12.) LIQUIDATED DAMAGES: IN CASE YOU WILL NOT BE ABLE TO DELIVER THE EQUIPMENT WITHIN THE SCHEDULED TIME, YOU WILL BE LIABLE TO PAY US LIQUIDATED DAMAGES @ 1% OF COST OF EQUIPMENTS PER WEEK OR PART THEREOF WITH THE MAXIMUM OF 10% OF TOTAL COST.            15. WARRANTY: ONE YEAR WARRANTY FROM THE DATE OF INVOICE (INCLUSIVE ALL REQUIRED SPARES AND CONSUMABLES)</p>	
<p><u>Terms &amp; Conditions of Purchase Order</u>            The following points needs to be adhered while making an invoice. In absence of any of these mandatory requirements, the invoice/ material WILL NOT be accepted:            01. All invoices must bear our Purchase Order No. and the same delivery address needs to be mentioned as in the Purchase Order header. Vendor will ensure to connect and share all communication on buyer registered Email ID &amp; official contact No. as per email signature banner only.            02. The criteria of Quality as defined in the Purchase Order must be followed, failing which, the bill/ material will not be accepted. Please ensure No official communication shall be allowed on personal contact numbers and E mail ID's.            03. The materials/ machines must be dispatched with proper E-Way bill wherever applicable.            04. The original invoice and other related documents must be addressed to our Commercial Dept as per the address mentioned in the Purchase Order header.            05. No payment shall be paid, if the Vendor does not deposit the GST amount timely and furnish the appropriate return within due date.            06. In case advance payment has been made, Vendor will timely deposit GST and will file appropriate return within time. In case of failure recovery will be made along with applicable tax, interest and penalty.            07. Important Note:            Vendor invoice shall be processed for payment on the basis of assumption that below conditions are strictly adhered by you:-            1. Vendor has filed his outward return (i.e. GSTR) by 15th /15th of following month/quarter. You are responsible to issue a valid tax invoice with government signed QR code and 64 digits unique IRN as may be applicable. In case, E-invoice is not applicable to you, you have to declare on your invoice that the provision of e-invoicing does not apply to us due to threshold limit or any other exemption, if available.            2. In absence of any of the above points like            (a) If you have not filed your GST returns within timelines, by including the invoices raised by you;            (b) If you have not paid GST in timely manner;            (c) If your invoices don't have any a valid IRN/QR Code.            Then, we won't be able to process your invoice for payment. You will be liable to make good any loss arising out of the lapse on your part in this regard and the said loss shall be recovered from you along with interest of 18% p.a. and penalty, if any.            3. You are responsible to issue a valid tax invoice with government signed QR code and 64 digit unique IRN No. as may be applicable. In case of any invalid invoice due to which our GST credit is denied, the same will be recovered from you with applicable interest and penalties. We also reserves the right to reject your</p>	

For Akuris Lifesciences Ltd.


 Auth. Signatory

PURCHASE ORDER	
111671 Vendor GSTIN No. 24ADIPP0287H12H <b>KETAV CONSULTANT</b> PLOT NO 21-25-26-27-28, BLOCK NO 518, JUNA BARALPURA PATIA, VILLAGE SAFA GRNDHINAGAR 382305 Gujarat 9687671384 service@ketavconsultant.in	PURCHASE ORDER 3500000531 P.O. DATE 18.11.2023  <b>UNAUTHORIZED PO</b> Our FAN No. : AACCP1419K. State Code : 03
invoices that are invalid, in which case the payment terms will commence from the date of providing of valid invoice by you to us. 4. Payment of your valid tax invoice shall be subject to the condition that you shall ensure that proper invoice, credit and debit note data is uploaded in the GST and GST liability is paid by you within statutory deadlines, to enable us claim GST credits of the taxes in timely manner. In case of any mismatch in the data uploaded by you on GST portal Vs the invoices submitted or GST paid to Govt. Vs Govt. charged to us, we reserves the right to recover the GST along with interest and penalties after providing reasonable opportunity to you to rectify the error, but not later than 31st October after close of each financial year. Also, we reserves the right to reject your invoices if they are not appropriately and timely uploaded on Govt. Portal or tax is not paid in time.	
Corp. Off: Godrej Eternia, BSE, 3rd Floor, Tower B, Chandigarh Ph:27011315 Fax: 27023256	

For Atoms Lifesciences Ltd.

Auth. Signatory

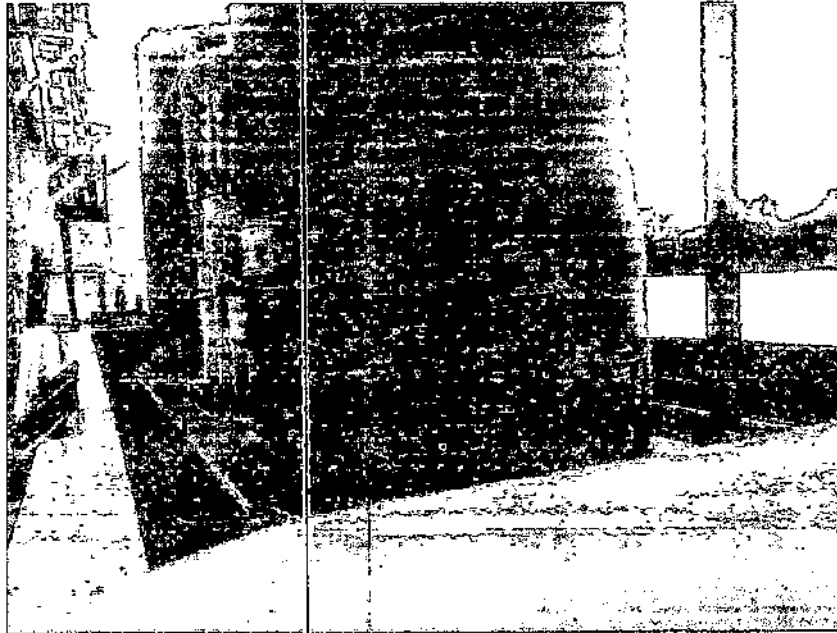
OBSERVATION SERIAL NUMBER	10
ANNEXURE	ii



For Akurys Lifesciences Ltd.

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Auth. Signatory

OBSERVATION SERIAL NUMBER	11
ANNEXURE	III



For Akums Lifesciences Ltd.

*[Handwritten Signature]*  
Auth. Signatory

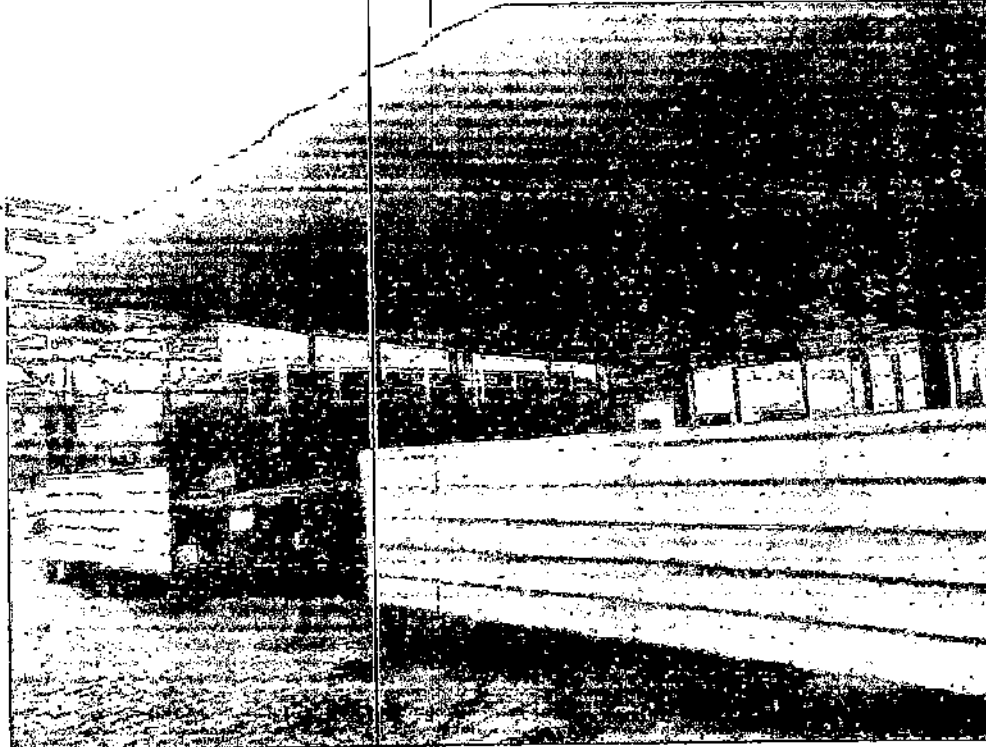
OBSERVATION SERIAL NUMBER	12
ANNEXURE	IV



For Akur's Lifesciences Ltd.

*[Handwritten Signature]*  
Auth. Signatory

OBSERVATION SERIAL NUMBER	13
ANNEXURE	V



*[Handwritten Signature]*  
For *[Handwritten Name]* Lifesciences Ltd.  
Auth. Signatory

OBSERVATION SERIAL NUMBER		15
ANNEXURE		VI



For Akum's Lifesciences Ltd.

Auth. Signatory



CIN No. : L24231CH1996PLC017755

# Akums Lifesciences Limited

(A Subsidiary of AKUMS Drugs &amp; Pharmaceuticals Ltd.)

Regd. Off. : Brij Business Centre, SCO 144-145, 2nd Floor,  
Cabin No. 209, Sector 34-A, Chandigarh  
Ph. : +91 88590 00568 E-mail : info.api@akums.in

Date – 21-Nov-23

To,

Honourable Chairman,  
Punjab Pollution Control Board,  
Vatavaran Bhavan, Nabha Road,  
Head Office, Patiala

SUB: Request for continuation of Power Supply from GRID for next 21 days for ensuring safe plant shutdown and DG permission for running critical equipments.

Ref – Letter with reference No CTOA/Renewal/SAS/2023/23884505 dated 20/11/2023 and Electricity Supply Disconnection PSPCL

## IMPACT ASSESSMENT DUE TO PLANT SHUTDOWN

Respected Sir,

We are in receipt of letter with reference CTOA/Renewal/SAS/2023/23884505 dated 20/11/2023 and Electricity Supply Disconnection PSPCL authority. We have submitted written reply for the observations made by PPCB Official during the visit to our industry.

We have worked out impact of Electrical Supply Disconnection of our Sundran Unit where we have been manufacturing Cephalosporin and Betalactum Drugs. The shutdown of an API (Active Pharmaceutical Ingredient) plant can have significant impacts on various stakeholders, including the employees, the manufacturer, and the community as a whole.

**Job Loss:** The most direct impact of a shutdown is the loss of jobs for the employees working at the plant. These employees may face financial hardship and unemployment, and they may also struggle to find similar job opportunities in their area. We have employed nearly 700 no's on direct roll, whose future and their dependents (family) future will be at stake and nearly 280 no's indirect manpower who will also be jobless for the period of closure.

**Manufacturing Loss:** The shutdown of an API plant can also have an impact on the manufacturer's operations, leading to a decrease in revenue and potential loss of market share. This can be particularly significant if our plant is a key antibiotic supplier for the manufacturer's products, as this could disrupt the entire supply chain and there would be shortages of life saving drugs. As per our consent conditions, we can produce the following drugs and respective quantities from our plant located at Village: Sundran [Derabassi]:

For Akums Lifesciences Ltd.

Auth. Signatory

Unit I : Vill. Sundran, P.O. Mubarakpur, Tehsil Derabassi, Distt. SAS Nagar, Punjab - 140 201 (India)  
Unit II : Vill. Chachrauli, P.O. Jeoli, Tehsil Derabassi, Lalru, Distt. SAS Nagar, Punjab - 140 501 (India)  
Unit III : 280-281, HSIIDC, Tehsil Barwala, Distt. Panchkula, Haryana - 134 118 (India)



CIN No. : L24231CH1996PLC017755

# Akums Lifesciences Limited

(A Subsidiary of AKUMS Drugs &amp; Pharmaceuticals Ltd.)

Regd. Off. : Brij Business Centre, SCO 144-145, 2nd Floor,  
Cabin No. 209, Sector 34-A, Chandigarh

Ph. : +91 88590 00568 E-mail : info.api@akums.in

Sr. No.	Product As Per Consent	UOM	Quantity per day	Quantity per month
1	Cefepime Hydrochlorides	Kgs/day	30	900
2	Cefrozil	Kgs/day	20	600
3	Cefpodoxime Proxetil	Kgs/day	100	3000
4	Ceftiaxone Sodium	Kgs/day	100	3000
5	Cefixime	Kgs/day	80	2400
6	Cefdinir	Kgs/day	10	300
7	Cefuroxime Axetil Amorphous	Kgs/day	126.67	3800.1

If we shut the unit for 15 days, the total sales loss works out to be Rs 9.00 Crores plus additionally, due to non-supply of API, there will be further loss of formulation manufacturing of 30 Million Tablets and 2 Million vials to our customers, who make the final lifesaving formulations for the patients. Prima Facie, we think that nearly 1.5Cr patients will not be able to buy our medicines, which they are already using as per prescription of Doctors.

Regulatory Concerns: Shutting down our API plant can also raise regulatory concerns, especially if the plant was producing critical drugs or was the only source for certain medicines. This could lead to supply shortages, impacting global patients who rely on these drugs for their health. Re-starting of the process is takes long time after sudden closure.

EHS impact: Plant shutdown leads to disturbance in aeration system of ETP. The bacteria survives on COD feed via effluent and air purging with the help of running air compressors. Generation of new bacteria after shutdown will take at least couple of months to come back to old stage.

Community Impact: The shutdown of an API plant can also have a broader impact on the community, including decreased tax revenue and potential environmental concerns. The plant is a significant employer in the area, and its closure could lead to a ripple effect of job losses in other local businesses.

In view of the above, we sincerely plead to your esteemed good self to re-consider the shutdown order on compassionate grounds. We have already complied with all the observations and as a responsible organization we will continue to adhere all environment regulations.

Also our manufacturing processes involves hazardous chemical reactions. It takes 21 days for us for the safe shutdown of the plant operations. Kindly allow us to continue power supply from PSPCL till the time we bring the plant in to safety mode.

Further we will be requiring power supply after 21 days to the consumable points like ETP/QC/FG/RM Stores, for which we will operate DG for catering power.

Submitted for your favorable consideration, please.

Thanking your  
Yours faithfully,  
For Akums Lifesciences Ltd.

Authorized Signatory  
Auto Signatory

CC : Respected Member Secretary, PFCH, Patiala  
CC : Respected Sr Environmental Engineer -PPCB, Mohali  
CC : Respected XEN-PPCB, Mohali

Unit I : Vill. Sundran, P.O. Mubarakpur, Tehsil Derabassi, Distt. SAS Nagar, Punjab - 140 201 (India)

Unit II : Vill. Chachrauli, P.O. Jeoli, Tehsil Derabassi, Lalru, Distt. SAS Nagar, Punjab - 140 501 (India)

Unit III : 280-281, HSIDC, Tehsil Barwala, Distt. Panchkula, Haryana - 134 118 (India)



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Cabin No. 209, Sector 34-A, Chandigarh  
Ph. : +91 88590 00568 E-mail : info.api@akums.in

Dated: 23-11-2023

To,

Honorable Chairman,  
Punjab Pollution Control Board, Vatavaran  
Bhavan, Nabha Road, Head Office, Patiala

**SUB:** Request for continuation of Power Supply from GRID for next 30 days for ensuring safe plant shutdown and DG permission for running critical equipments.

**Ref-** Letter with reference No CTOA/Renewal/SAS/2023/23884505 dated 20/11/2023 and Electricity Supply Disconnection PSPCL

Respected Sir,

This is in continuation to our plea submitted to you on 21-Nov-2023 regarding Impact due to electricity supply disconnection from State Power Grid. In that plea we have requested for resumption of Power for our plant for next 30 days in order to complete the work in progress batches.

Our manufacturing processes involves hazardous chemical reactions like Carbamate Synthesis, Alkylation, Esterification. These reactions are highly exothermic and leads to run away condition if proper control through Utilities and Stirring is not maintained during the process. For maintaining utility temperate and stirring, we need electricity. In case of any such incident, hazardous gases will evolve from the reactors leading to On Site/Off Site emergency. Also RM used in manufacturing of Cephalosporins and Intermediates/Finished Goods are highly sensitive to temperature. If appropriate temperature is not maintained during processing/storage, material will decompose and hazardous gases will be generated. Hence it is our humble request to your good self to consider resumption of Power from Grid for next 30 days on immediate basis.

We would like to assure you that we are taking all necessary measures to address all observations which are minor in nature.

Submitted for your favorable consideration, please.

Thanking your  
Yours Sincerely,

Authorized Signatory



CC : Respected Member Secretary, PPCB, Patiala  
CC : Respected Sr Environmental Engineer -PPCB, Mohali  
CC : Respected XEN-PPCB, Mohali



# ਪੰਜਾਬ ਪ੍ਰਦੂਸ਼ਣ ਰੋਕਥਾਮ ਬੋਰਡ

ਜੇਨਲ ਦਫ਼ਤਰ-1, ਵਾਤਾਵਰਣ ਭਵਨ, ਨਾਭਾ ਰੋਡ, ਪਟਿਆਲਾ-147001

Phone no. 0175-2301182

ਨੰਬਰ \_\_\_\_\_



e-mail : ppcbsee\_zp1@yahoo.com

ਮਿਤੀ \_\_\_\_\_

REGISTERED

To

1. The Chief Engineer (Distribution - South),  
Punjab State Power Corporation Ltd.,  
Patiala
2. The Deputy Chief Engineer (Operation),  
Punjab State Power Corporation Ltd.  
S.A.S. Nagar

**Subject:** Directions u/s 33-A of the Water (Prevention & Control of Pollution) Act, 1974 - M/s Akum Lifesciences Ltd., (Erstwhile Parabolic Drugs Ltd.), Vill. Sundran, Mubarakpur, Tehsil Dera Bassi, Distt. SAS Nagar

**Reference:** Board's letter endst. no. 354-43 dated 17/5/2023

In above regard, it is intimated that the electric connection of the industry was restored temporarily upto 16/10/2023. The industry was heard before the Chairman of the Board on 20/11/2023 and after hearing, it has been decided by the Competent Authority of the Board to issue directions for disconnection of the electricity supply available to the subject cited industry.

Accordingly, the following directions are hereby issued u/s 33-A of the Water (Prevention & Control of Pollution) Act, 1974:

***"That the authorities concerned shall disconnect the electricity supply available to subject cited industry with immediate effect."***

It is, therefore, requested to comply with the above said directions.

This issue with the approval of Chairman of the Board.

*sd*  
Sr. Environmental Engineer  
for & on behalf of the  
Punjab Pollution Control Board

Endst. no. \_\_\_\_\_

Dated \_\_\_\_\_

A copy of the above is forwarded to the Environmental Engineer, Punjab Pollution Control Board, Regional Office, SAS Nagar for information and compliance.

*sd*  
Sr. Environmental Engineer  
for & on behalf of the  
Punjab Pollution Control Board

Endst. no. 8863

Dated 20/11/23

A copy of the above is forwarded to M/s Akum Lifesciences Ltd., (Erstwhile Parabolic Drugs Ltd.) Vill. Sundran, Mubarakpur, Tehsil Dera Bassi, Distt. SAS Nagar for information.



## ਪੰਜਾਬ ਪ੍ਰਦੂਸ਼ਣ ਰੋਕਥਾਮ ਬੋਰਡ

ਜ਼ੋਨਲ ਦਫ਼ਤਰ-1, ਵਾਤਾਵਰਣ ਭਵਨ, ਨਾਭਾ ਰੋਡ, ਪਟਿਆਲਾ-147001



**LIFE**  
Lifestyle for  
Environment

Phone no. 0175-2301182

e-mail : ppcbsee\_zp1@yahoo.com

ਨੰਬਰ \_\_\_\_\_

ਮਿਤੀ \_\_\_\_\_

REGISTERED

To

1. The Chief Engineer (Distribution - South),  
Punjab State Power Corporation Ltd.,  
Patiala
2. The Deputy Chief Engineer (Operation),  
Punjab State Power Corporation Ltd.  
SAS Nagar

**Subject:** Directions u/s 33-A of the Water (Prevention & Control of Pollution) Act, 1974 and u/s 31-A of the Air (Prevention and Control of Pollution) Act, 1981 - M/s Akum Lifesciences Ltd., (Erstwhile Parabolic Drugs Ltd.), Vill. Sundran, Mubarakpur, Tehsil Dera Bassi, Distt. SAS Nagar

**Reference:** Board's letter endst. no. 3542-43 dated 17/5/2023 and 8860-63 dated 20/11/2023

The Competent Authority of the Board has considered the matter and it has been decided to restore the supply of electricity to the subject cited industry temporarily for three months i.e. upto 29/2/2024 with the following directions u/s 33-A of the Water (Prevention & Control of Pollution) Act, 1974 and u/s 31-A of the Air (Prevention and Control of Pollution) Act, 1981:

***"That the authorities concerned shall restore the supply of electricity to subject cited industry for three months i.e. upto 29/2/2024, with immediate effect."***

It is, therefore, requested to comply with the above said directions concerning to the above industry.

**This issue with the approval of Chairman of the Board.**

*sd*  
Sr. Environmental Engineer  
for & on behalf of the  
Punjab Pollution Control Board

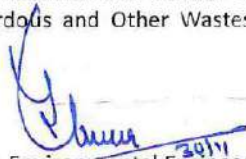
Endst. no. \_\_\_\_\_

Dated \_\_\_\_\_

A copy of the above is forwarded to the Environmental Engineer, Punjab Pollution Control Board, Regional Office, SAS Nagar for information and compliance. He is requested to visit the industry every 15-days and submit the progress made by the industry to achieve the compliance of the directions issued and shall also process the applications for consent to operate applied by the industry immediately.

*sd*  
Sr. Environmental Engineer  
for & on behalf of the

- 2) The industry shall install STP for the treatment of domestic wastewater within 3-months.
- 3) The industry shall install ATFD with the ETP system within 3-months.
- 4) The industry shall carryout the Environmental Audit Study Report for the area inside and outside the industry and shall include groundwater study, ambient air quality monitoring, Solvent Recovery Plant audit, ETP audit which should include the adequacy of Zero Liquid Discharge (ZLD) based technology ETP from a Technical Institute of good repute and submit the report within 3- months.
- 5) The industry shall submit a material balance statement for all the products being manufactured within 3-months.
- 6) The industry shall submit a Water balance statement for all the products being manufactured within 3-months.
- 7) The industry shall immediately apply for consent to operate of the Board as required under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981 and authorization as required under the Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016.

  
Sr. Environmental Engineer  
for & on behalf of the  
Punjab Pollution Control Board



**PUNJAB POLLUTION CONTROL BOARD**

Zonal Office-I, Vatavaran Bhawan, Nabha Road, Patiala

Website:- www.ppcb.gov.in

<b>Office Dispatch No :</b>	<b>Registered/Speed Post</b>	<b>Date:</b>
<b>Industry Registration ID:</b> R12SAS21124		<b>Application No :</b> 19894899

To,

**Lakshmipatti Sriram**  
Village Sundran, Derabassi  
Derabassi, Mohali-140507

**Subject: Grant of 'Consent to Operate' u/s 21 of Air (Prevention & Control of Pollution) Act, 1981 for discharge of emissions arising out of premises.**

With reference to your application for obtaining 'Consent to Operate' u/s 21 of Air (Prevention & Control of Pollution) Act, 1981, you are hereby, authorized to operate an industrial unit for discharge of the emission(s) arising out of your premises subject to the Terms and Conditions as mentioned in this Certificate.

**1. Particulars of Consent to Operate under Air Act, 1981 granted to the industry**

<b>Consent to Operate Certificate No.</b>	CTOA/Fresh/SAS/2022/19894899
<b>Date of issue :</b>	18/11/2022
<b>Date of expiry :</b>	31/03/2023
<b>Certificate Type :</b>	Fresh

**2. Particulars of the Industry**

<b>Name &amp; Designation of the Applicant</b>	Lakshmipatti Sriram, (Vp-operation)
<b>Address of Industrial premises</b>	Akums Life Sciences Ltd. (erstwhile Parabolic Drugs Ltd), Village: Sundran, Mubarakpur, Derabassi, Sas Nagar-140507
<b>Capital Investment of the Industry</b>	24175.0 lakhs
<b>Category of Industry</b>	Red
<b>Type of Industry</b>	Drugs and Pharmaceuticals
<b>Scale of the Industry</b>	Large
<b>Office District</b>	Sas Nagar
<b>Consent Fee Details</b>	Rs. 432000/- vide UTR No. N094221902332565 dated 04.04.2022 Rs. 432000/- vide UTR No. N095221902697706 dated 05.04.2022

<b>Raw Materials (Name with Quantity per day)</b>	<p>IPA @1.1Metric Tonnes/Day          PMIC @.571Metric Tonnes/Day          Sodium Chloride @.319Metric Tonnes/Day          Sodium Hexonate @.512Metric Tonnes/Day          Sodium Carbonate @.159Metric Tonnes/Day          HCL .114 @.114Metric Tonnes/Day          EA @2.122Metric Tonnes/Day          Hyflo @.002Metric Tonnes/Day          FCMIC @.603Metric Tonnes/Day          2_EHA @.241Metric Tonnes/Day          Sodium Bi carbonate @.001Metric Tonnes/Day          Di CMIC @.638Metric Tonnes/Day          EAA @.483Metric Tonnes/Day          MIBK @.119Metric Tonnes/Day          NaOH @.134Metric Tonnes/Day          PG Base @.638Metric Tonnes/Day          KOH @.203Metric Tonnes/Day          nBA @1.561Metric Tonnes/Day          Piv. Acid @.046Metric Tonnes/Day          Pivaloyl chloride @.379Metric Tonnes/Day          Pyridine @.009Metric Tonnes/Day          TEA @.350Metric Tonnes/Day          MDC @1.23Metric Tonnes/Day          Ammonia @.127Metric Tonnes/Day          LN2 @6.23Metric Tonnes/Day          Amoxy Dane Salt @.873Metric Tonnes/Day          DMAc @.116Metric Tonnes/Day          Ceftriaxone sod NS @1.075Metric Tonnes/Day          Cef tazidimme NS @1.075Metric Tonnes/Day          Activated Carbon @.054Metric Tonnes/Day          EDTA @.012Metric Tonnes/Day          Cef tazidime NS @1.481Metric Tonnes/Day          Caustic Soda Flakes @.315Metric Tonnes/Day          Formic Acid @.382Metric Tonnes/Day          CEFEPIME HCL @1.098Metric Tonnes/Day          Methanol @6Metric Tonnes/Day          Cef tizoxime Acid @1.031Metric Tonnes/Day          Sodium 2 eha @.722Metric Tonnes/Day          Cefuroxime Acid @1.136Metric Tonnes/Day          EDTA Sodium @.013Metric Tonnes/Day          7-ACA @.960Metric Tonnes/Day          BF3 Gas @3.342Metric Tonnes/Day          Sod. Thio Sulphate @.250Metric Tonnes/Day          GCLE @3.536Metric Tonnes/Day          Sodium Bromide @.388Metric Tonnes/Day          MAEM @.957Metric Tonnes/Day          Sulfolane @8.357Metric Tonnes/Day          di methelene chloride @6.0Metric Tonnes/Day          Hydros @.037Metric Tonnes/Day          CEIPC @.412Metric Tonnes/Day          Sod. Iodide @.377Metric Tonnes/Day          Crown Ether @.020Metric Tonnes/Day          Toluene @.550Metric Tonnes/Day          CPDA @.928Metric Tonnes/Day          IEIPC @.628Metric Tonnes/Day          TMG @.234Metric Tonnes/Day          Di methyl acetamide @4.350Metric Tonnes/Day</p>
<b>Products (Name with Quantity per day)</b>	<p>Cefepime Hydrochloride @ 30 Kgs/day          Cefrozil @ 20 Kgs/day          Cefpodoxim e Proxetil @ 100 Kgs/day          Cefitaxone Sodium @ 100 Kgs/day          Cefixime @ 80 Kgs/day          Cefdinir @ 10 Kgs/day          Cefuroxime Axetil Amorphous @ 126.67 Kgs/day</p>
<b>By-products, if any, (Name with Quantity per day)</b>	--
<b>Details of the machinery and process</b>	<p>As per application no.19894899          Various chemical reactions</p>

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Akums Life Sciences Ltd. (erstwhile Parabolic Drugs Ltd),Village: Sundran, Mubarakpur,Derabassi,Sas Nagar,140507

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<p><b>Quantity of fuel required (in TPD) and capacity of boilers/ Furnace/Thermo heater etc.</b></p>	<p>1. One DG Set of capacity 1000 KVA- Fuel HSD @ 3840 Lit/day- Canopy and stack of 10 mt. above roof provided.</p> <p>2. One DG Set of capacity 500 KVA- Fuel HSD @ 1920 Lit/day- Canopy and stack of 8 mt. above roof provided.</p> <p>3. One DG Set of capacity 625 KVA- Fuel HSD @ 2400 Lit/day- Canopy and stack of 10 mt. above roof provided.</p> <p>4. Boiler of 6 TPH Capacity - Fuel Rice Husk @ 24 Metric Tonnes/Day - Stack of 9 mt. above roof level and Multi Cyclone Separator provided as APCD.</p>
<p><b>Type of Air Pollution Control Devices to be installed</b></p>	<p>1. One DG Set of capacity 1000 KVA- Canopy and stack of 10 mt. above roof provided.</p> <p>2. One DG Set of capacity 500 KVA- Canopy and stack of 8 mt. above roof provided.</p> <p>3. One DG Set of capacity 625 KVA- Canopy and stack of 10 mt. above roof provided.</p> <p>4. Incinerator - Stack of 25 mt. height above roof level - 2 Stage Alklic Scrubber provided as APCD.</p> <p>5. Pilot Plant - Stack of 3 mt. height above roof level - packed bed Scrubber provided as APCD.</p> <p>6. Manufacturing Block-A - Stack of 9 mt. height above roof level - packed bed Scrubber provided as APCD.</p> <p>7. Manufacturing Block-B - Stack of 9 mt. height above roof level - packed bed Scrubber provided as APCD.</p> <p>8. Boiler of 6 TPH Capacity - Stack of 9 mt. above roof level and Multi Cyclone Separator provided as APCD.</p>
<p><b>Stack height provided with each boiler/thermo heater/Furnace etc.</b></p>	<p>1. One DG Set of capacity 1000 KVA- Canopy and stack of 10 mt. above roof provided.</p> <p>2. One DG Set of capacity 500 KVA- Canopy and stack of 8 mt. above roof provided.</p> <p>3. One DG Set of capacity 625 KVA- Canopy and stack of 10 mt. above roof provided.</p> <p>4. Incinerator - Stack of 25 mt. height above roof level - 2 Stage Alklic Scrubber provided as APCD.</p> <p>5. Pilot Plant - Stack of 3 mt. height above roof level - packed bed Scrubber provided as APCD.</p> <p>6. Manufacturing Block-A - Stack of 9 mt. height above roof level - packed bed Scrubber provided as APCD.</p> <p>7. Manufacturing Block-B - Stack of 9 mt. height above roof level - packed bed Scrubber provided as APCD.</p> <p>8. Boiler of 6 TPH Capacity - Stack of 9 mt. above roof level and Multi Cyclone Separator provided as APCD.</p>
<p><b>Sources of emissions and type of pollutants</b></p>	<p>DG Sets - SO<sub>x</sub>, NO<sub>x</sub> &amp; SPM Boiler – SPM Scrubber new SSC plant - Acid Mist</p>
<p><b>Standards to be achieved under Air(Prevention &amp; Control of Pollution) Act, 1981</b></p>	<p>As per emission standards prescribed by the PPCB/ MoEF&amp;CC from time to time.</p>



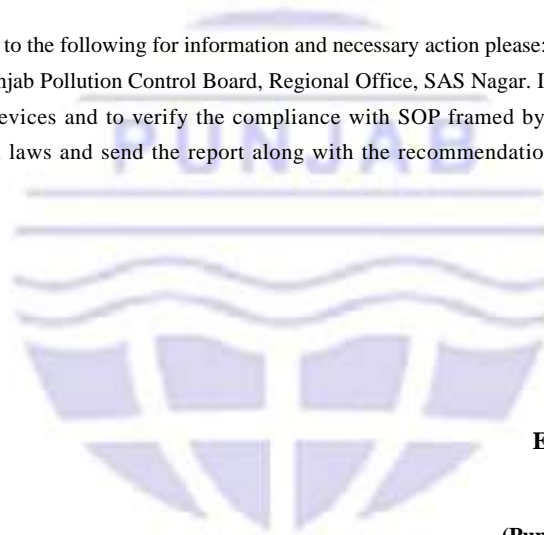
18/11/2022

**( Kuldeep Singh )  
Environmental Engineer**

*For & on behalf**of***(Punjab Pollution Control Board)****Endst. No.:****Dated:**

A copy of the above is forwarded to the following for information and necessary action please:

The Environmental Engineer, Punjab Pollution Control Board, Regional Office, SAS Nagar. It is requested to visit the industry to monitor the pollution control devices and to verify the compliance with SOP framed by such type of units and verify the compliance with environmental laws and send the report along with the recommendation.



18/11/2022

**( Kuldeep Singh )  
Environmental Engineer**

*For & on behalf**of***(Punjab Pollution Control Board)**

### TERMS AND CONDITIONS

#### A. GENERAL CONDITIONS

1. This consent is not valid for getting power load from the Punjab State Power Corporation Ltd. or for getting loan from the financial institutions.
2. The industry shall apply for renewal /extension of consent at least two months before expiry of the consent.
3. The industry shall not violate any of the norms prescribed under the Air (Prevention & Control of Pollution) Act, 1981, failing which, the consent shall be cancelled / revoked.
4. The achievement of adequacy and efficiency of the air pollution control devices installed shall be the entire responsibility of the industry
5. The authorized fuel being used shall not be changed without the prior written permission of the Board.
6. The industry shall not discharge any fugitive emissions. All gases shall be emitted through a stack of suitable height, as per the norms fixed by the Board from time to time.
7. The industry shall provide port-holes, platforms and/or other necessary facilities as may be required for collecting samples of emissions from any chimney, flue or duct or any other outlets.

#### Specifications of the port-holes shall be as under:-

- i) The sampling ports shall be provided atleast 8 times chimney diameter downstream and 2 times upstream from the flow disturbance. For a rectangular cross section the equivalent diameter (De) shall be calculated from the following equation to determine upstream, downstream distance:-  

$$De = 2 LW / (L+W)$$
 Where L= length in mts. W= Width in mts.
- ii) The sampling port shall be 7 to 10 cm in diameter
8. The industry shall put display Board indicating environmental data in the prescribed format at the main entrance gate.
9. The industry shall discharge all gases through a stack of minimum height as specified in the following standards laid down by the Board.

#### (i) Stack height for boiler plants

S.NO.	Boiler with Steam Generating Capacity	Stack heights
1.	Less than 2 ton/hr.	9 meters or 2.5 times the height of neighboring building which ever is more
2.	More than 2 ton/hr. to 5 ton/hr.	12 meters
3.	More than 5 ton/hr. to 10 ton/hr	15 meters
4.	More than 10 ton/hr. to 15 ton/hr	18 meters
5.	More than 15 ton/hr. to 20 ton/hr	21 meters
6.	More than 20 ton/hr. to 25 ton/hr.	24 meters
7.	More than 25 ton/hr. to 30 ton/hr.	27 meters
8.	More than 30 ton/hr.	30 meters or using the formula $H = 14 Q_g^{0.3}$ or $H = 74 (Q_p)^{0.24}$ Where $Q_g$ = Quantity of SO <sub>2</sub> in Kg/hr. $Q_p$ = Quantity of particulate matter in Ton/day.

**Note : Minimum Stack height in all cases shall be 9.0 mtr. or as calculated from relevant formula whichever is more.**

**(ii) For industrial furnaces and kilns, the criteria for selection of stack height would be based on fuel used for the corresponding steam generation.**

**(iii) Stack height for diesel generating sets:**

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*Akums Life Sciences Ltd. (erstwhile Parabolic Drugs Ltd), Village: Sundran, Mubarakpur, Derabassi, Sas Nagar, 140507*

*Page 5*

Capacity of diesel generating set	Height of the Stack	
0-50 KVA	Height of the building	+ 1.5 mt
50-100 KVA	-do-	+ 2.0 mt.
100-150 KVA	-do-	+ 2.5 mt.
150-200 KVA	-do-	+ 3.0 mt.
200-250 KVA	-do-	+ 3.5 mt.
250-300 KVA	-do-	+ 3.5 mt.

**For higher KVA rating stack height H (in meter) shall be worked out according to the formula:**

$$H = h + 0.2 (KVA)^{0.5}$$

where h = height of the building in meters where the generator set is installed.

10. The pollution control devices shall be interlocked with the manufacturing process of the industry to ensure its regular operation.
11. The existing pollution control equipment shall be altered or replaced in accordance with the directions of the Board, and no pollution control equipment or chimney shall be altered or as the case may be erected or re-erected except with the prior approval of the Board.
12. The industry will provide canopy and adequate stack with the D.G sets so as to comply with the provision of notification No GSR-371 E dated 17-5-2002(amended from time to time) issued by MOEF under Environment (Protection) Act, 1986.
13. The Govt. of Punjab, Department of Science, Technology & Environment vide its notification no.4/46/92-3ST/2839 dt. 29/12/1993 has put prohibition on the use of rice husk as fuel after 1.4.1995 except the following:-

***½*In the form of briquettes and use of rice husk in fluidized bed combustion. So the industry shall make the necessary arrangement to comply with the above notification.*½***

14. The industry shall submit balance sheet of every financial year to the concerned Regional Office by 30th June of every year
15. That the industry shall submit a yearly certificate to the effect that no addition / up-gradation/ modification/ modernization has been carried out during the previous year otherwise the industry shall apply for the varied consent.
16.
  - a) The industry shall ensure that at any time the emission do not exceed the prescribed emissions standards laid down by the Board from time to time for such type of industry /emissions.
  - b) The industry shall ensure that the emissions from each stack shall conform to the following emission standards laid down by the Board in respect of the Industrial Boilers.

Steam Generating capacity A.	Required particulate matter B.	
<i>Area upto 5 Km from Other than 'A' class Other than the periphery of I and Class-II town</i>		
<i>Less than 2 ton/hr.</i>	800 mg/NM3	1200 mg/NM3
<i>2 ton to 10 ton/hr.</i>	500 mg/NM3	1000 mg/NM3
<i>Above 10 ton to 15 ton/hr</i>	350 mg/NM3	500 mg/NM3
<i>Above 15 ton/hr</i>	150 mg/NM3	150 mg/NM3

All emissions normalized to 12% carbon dioxide.

17. The industry shall ensure that the Hazardous Wastes generated from the premises are handled as per the provisions of the Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2008, without any adverse effect on the environment, in any manner.
18. The air pollution control equipments shall be kept at all time in good running condition and;

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*Akums Life Sciences Ltd. (erstwhile Parabolic Drugs Ltd), Village: Sundran, Mubarakpur, Derabassi, Sas Nagar, 140507*

*Page 6*

- (i) All failures of control equipments.
  - (ii) The emissions of any air pollutant into the atmosphere in excess of the standards lay down by the Board occurring or being apprehended to occur due to accident or other unforeseen act or event. 'Shall be intimated through fax to the concerned Regional Office as well as to the Director of Factories, Punjab, Chandigarh as required under rule 10 of the Punjab State Board for the Prevention and Control of Air Pollution Rules, 1983'.
19. The industry shall plant minimum of three suitable varieties of trees at the density of not less than 1000 trees per hectare all along the boundary of the industrial premises.
  20. The industry shall submit a site emergency plan approved by the Chief Inspector of Factories, Punjab as applicable.
  21. The industry shall comply with the conditions imposed by the SEIAA/MOEF in the Environmental Clearance granted to it as required under EIA notification dated 14/9/06, if applicable.
  22. The industry shall make necessary arrangements for the monitoring of stack emissions and shall get its emissions analyzed from lab approved / authorized by the Board:-
    - (i) Once in Year for Small Scale Industries.
    - (ii) Twice/thrice/four time in a Year for Large/Medium Scale Industries.
  23. The industry shall maintain the following record to the satisfaction of the Board :-
    - (i) Log books for running of air pollution control devices or pumps/motors used for it.
    - (ii) Register showing the result of various tests conducted by the industry for monitoring of stack emissions and ambient air.
    - (iii) Register showing the stock of absorbents and other chemicals to be used for scrubbers.
  24. The industry will install the separate energy meter for running pollution control devices and shall maintain record with respect to operation of air pollution control device so as to satisfy the Board regarding the regular operation of air pollution control device and monthly reading / record may be sent to the Board by the fifth of the following month.
  25. The industry shall provide online monitoring system as applicable, for in stack emission and shall maintain the record of the same for inspection of the Board Officers.
  26. The Board reserves the right to revoke the consent granted to the industry at any time, in case the industry is found violating the provisions of Air (Prevention & Control of Pollution) Act, 1981 as amended from time to time.
  27. The industry shall comply with any other conditions laid down or directions issued in due course by the Board under the provisions of the Air (Prevention & Control of Pollution) Act, 1981.
  28. Nothing in this consent shall be deemed to neither preclude the institution of any legal action nor relieve the applicant from any responsibilities, liabilities or penalties to which the applicant is or may be subjected to under this or any other Act.
  29. Any amendments/revisions made by the Board/CPCB/MOEF in the emission/stack height standards shall be applicable to the industry from the date of such amendments/revisions.
  30. The industry shall dispose off its solid waste generated by the burning of fuel in an Environmentally Sound Manner within the premises/outside as approved by the Board, to avoid public nuisance and air pollution problem in the area.
  31. The industry shall ensure that no air pollution problem or public nuisance is created in the area due to the discharge of emissions from the industry.
  32. The industry shall provide adequate arrangement for fighting the accidental leakage/discharge of any air pollutant/gas/ liquids from the vessels, mechanical equipment's etc, which are likely to cause environmental pollution.
  33. The industry shall not change or alter the manufacturing process(es) and fuel so as to change the quality/quantity of emissions generated without the prior permission of the Board.
  34. The industry shall earmark a land within their premises for disposal of boiler ash in an environmentally sound manner, and / or the industry shall make necessary arrangements for proper disposal of fuel ash in a scientific manner and shall maintain proper record for the same, if applicable.
  35. The industry shall obtain and submit Insurance cover under the Public Liability Insurance Act, 1991.
  36. The industry shall provide proper and adequate air pollution control arrangements for control emission from its fuel handling area, if applicable.

37. The industry shall comply with the code of practice as notified by the Government/Board for the type of industries where the siting guidelines / Code of Practice have been notified.
38. The industry shall not cause any nuisance/traffic hazard in vicinity of the area
39. The industry shall ensure that the noise & air emission from D.G. sets do not exceed the standards prescribed for D.G. sets by the Ministry of Environment & Forests, New Delhi.
40. The industry shall ensure that there will not be significant visible dust emissions beyond the property line
41. The industry shall provide adequate and appropriate air pollution control devices to contain emissions from handling, transportation and processing of raw material & product of the industry.
42. The Industry shall ensure that its production capacity does not exceed the capacity mentioned in the consent and shall not carry out any expansion without the prior permission / NOC of the Board.

**B. SPECIAL CONDITIONS**

1. The industry shall completely SOP work of SRP plant within 02 months.
2. The industry shall maintain the record of effluent treatment through ETP as well as MEE on daily basis.
3. The industry shall operate its APCD as well as ETP regularly.
4. The industry shall not discharge any kind of effluent outside the premises.
5. The industry shall maintain the house keeping within the premises.



18/11/2022

**( Kuldeep Singh )  
Environmental Engineer**

*For & on behalf*

*of*

**(Punjab Pollution Control Board)**

**ANNEXURE R3/5****JOINT R&D PROJECT AGREEMENT**

Between

IIT Ropar, Nangal Road, Rupnagar 140001, Punjab  
and

Pure and Cure Healthcare Pvt. Ltd., Sundran, Derabassi, SAS Nagar, Punjab

- A) **Title of the Joint R&D Project:** Investigation of Underground Water Chemistry for Pharmaceutical Industry
- B) **Name and Dept. /Centre of the Principal Investigator (PI):** Dr. Navin Gopinathan and Dr. Sarang P. Gumfekar, Department of Chemical Engineering
- C) **Name &Address of the Industry partner:** Pure and Cure Healthcare Pvt. Ltd., Sundran, Derabassi, SAS Nagar , Punjab
- D) **Objective of the Joint R&D Collaboration:** Investigation of Underground Water Chemistry
- E) **Time line of Project:** 2 months
- F) **Role of each Party:**

**IIT Ropar:**

- To investigate of Underground Water Chemistry

**Industry Partner:**

- To provide the water samples

**Note:** It is to be noted that although specific roles have been enumerated above, the parties, via mutual understanding, agree to be flexible as and when necessary, so that the overall objectives of the collaboration can be achieved within the minimum time and budget. Aspects of collaboration not directly mentioned, such as manpower training, mutual use of facility, sharing of material resources, etc. will be explored by mutual consent of both parties to best enhance the utility of outcomes.

**Proposed Objectives:**

- To investigate of Underground Water Chemistry

*Navin Gopinathan*  
*Sarang P. Gumfekar*



**G) Budget:**

	Budget Head Description	Amount (INR)
(I)	Expenses (Recurring/non-recurring)	2,10,000
(II)	Institute overhead charges (20%)	42,000
(III)	Charges (I+II)	2,52,000
(IV)	GST (18% of III)	45,360
(V)	Total charges	2,97,360

**H) Funding:**

80% of the project funding to IIT Ropar is to be made in advance and before the start of the project. Remaining 20% funds to be released within 15 days from the submission of the project report.

**I) Review:**

The PI and designated representative/s at Pure and Cure Healthcare Pvt. Ltd., will perform a review of the progress made in the project via online meetings as mentioned in the scope of the work.

**J) TERMS AND CONDITIONS:**

These terms and conditions govern projects for the development of products, processes, field studies, model studies, calculations, economic and technical feasibility, and other forms of projects of mutual interest to the PI and industry partner. The conditions are binding unless otherwise agreed upon in separate signed documents executed by mutual agreement of the Institute (through PI) and Industry partner.

- 1. DECLARATION:** All work undertaken by the PI at IIT Ropar as part of the project will be in good faith and based on material/data/other relevant information given by the industry partner.
- 2. RESPONSIBILITY/LIABILITY:** The Institute, through PI, undertakes to carry out the project as conscientiously as conditions allow but accepts no economic responsibility whatsoever should the work not lead to expected results. IIT Ropar shall not be held liable for any loss, damage, delay, or failure of performance resulting directly or indirectly from any cause which is beyond its reasonable control (Force Majeure). The liability of IIT Ropar shall be limited to the funds received for the project.
- 3. DISCRETION:** The Institute, through PI, undertakes to handle with discretion reports, results, the identity of the industry partner, and all material specifically treated/marked confidential which the industry partner places at the disposal of the PI in connection with the project at IIT Ropar, subject to Right to Information rules/regulations.
- 4. CONFIDENTIALITY:** Both the Industry partner and Institute agree not to disclose details of this project to any third party without the prior written consent of the other Party except: (i) to its advisors, attorneys, or auditors who have a need to know such information, (ii) as required by law or court order, or (iii) as may be required in connection with the enforcement

*Handwritten signatures:*  
 Nantipati  
 J. J. J.



of this agreement.

5. **SUB-CONTRACTING:** The Institute reserves the right to allow any work in connection with the project, experimental or otherwise, to be carried out by a third party as per Institute norms and procedures, provided this does not result in the danger of information of a confidential nature coming into the hands of unauthorized persons.
6. **INTELLECTUAL PROPERTY AND TECHNOLOGY TRANSFER:**
  - a) Both, PI and Industry partner agree to disclose any new discovery or invention to the other party prior to filing for intellectual property rights (IPR). IPR, as a result of this project, will be protected via patents, copyrights, etc., by IIT Ropar and the Industry Partner. Inventorship will be determined as per the law of the land, based on contribution to the invention.
  - b) Trademarks: Each party is the sole owner of their trademarks and agrees, for the purpose of this Agreement, to use each other's trademarks for the objectives outlined in this Agreement.
  - c) Terms and conditions regarding transferring/assigning/selling these rights to the Industry partner shall be governed by a separate written agreement as required.
7. **PUBLISHING THE RESULTS/OUTCOME OF THE PROJECT:** The results/ outcome of the project shall not be exploited by the Industry partner organization for its business interests by using IIT Ropar's name/logo through press advertisement/publicity material or in any other manner, without prior written permission. Manuscripts of academic papers, brochures, advertisements or other form of published material which refer to or quote the proprietary results of the project shall be vetted by both parties before publication.
8. **COMMUNICATION OF RESULTS TO A THIRD PARTY:** Industry partner may communicate, without the written agreement, the results of the project to a third party as necessary.
9. **PROJECTS FOR OTHER INDUSTRY PARTNERS:** The Institute may undertake other projects in the same field provided – to the best of its knowledge and belief – there exists no danger of information of a confidential nature coming into hands of a third party.
10. **APPARATUS:** Instruments and/or equipment obtained in connection with the project and charged to the industry partner remain the property of IIT Ropar, unless otherwise it is specifically agreed to by the Institute.
11. **TERMINATION OF THE PROJECT:**

This agreement shall be effective from the date of signing and shall be valid for a period of two years. The Industry partner has the right to terminate the agreement by giving a prior 30 days notice, but shall be liable for all reasonable expenses incurred in connection with halting work already in progress according to the agreed work programme. The decision of IIT Ropar shall be final as far as reasonableness of the expenses is concerned. The Institute has also the right to terminate the agreement by giving a prior 30 days notice, but shall be liable to refund the amount received from the Industry partner till the date of termination. The Industry partner in this case will not be liable for any expenses incurred after the termination.
12. **PAYMENT:** 80% of the project funding to IIT Ropar is to be made in advance and before the start of the project. Remaining 20% funds to be released within 15 days from the

*Manoj K. Singh*  
*[Signature]*



submission of the project report. The charges will also include any applicable tax as prescribed by the Government of India or the Government of Punjab (or any other statutory body) from time to time.

13. **DISPUTES:** In the event of any dispute or difference between the parties hereto, such dispute or differences shall be resolved amicably by mutual consultation. If such resolution is not possible, then the unresolved dispute or difference shall be referred to a sole arbitrator appointed by the mutual consent of both the parties for a reasoned Award. The Award of the arbitrator shall be binding on the parties to the dispute.

14. **DISCLAIMER:** The report on the project is the technical opinion of the PI based on his/their expertise in the particular area of research and in no way reflects the view(s) of IIT Ropar. IIT Ropar is not responsible for the accuracy or completeness of the report and the role of the Institute is limited to providing administrative support to the project.

Date: 05/08/2024



Name & Signature of Principal Investigators (PI)  
 Dr. Navin Gopinathan  
 Dr. Sarang P. Gumfekar  
 Place: Ropar, Punjab  
 (with office seal)

Date: 05 Aug 2024.

For Pure and Cure Healthcare Private Limited



Auth. Signatory  
 Name & Signature of Industry Partner  
 Mr. Sanjay Rai  
 Pure and Cure Healthcare Pvt. Ltd.  
 Place: Ropar, Punjab  
 (with office seal)

Department of Chemical Engineering  
 Indian Institute of Technology Ropar  
 Rupnagar, Punjab - 140001

PRESSURE GAUGE

ANNEXURE R3/6 (Colly)



Least Count: - 0.1 Kg/cm<sup>2</sup>

Range: - 0 to 7 Kg/ cm<sup>2</sup>

Make: - Baumer



**PURE AND CURE HEALTHCARE PRIVATE LIMITED**  
**PLANT- DERABASSI**  
**ENGINEERING**

**CALIBRATION CERTIFICATE**

Certificate No. ET/2024/013

**Detail of Instrument under Calibration:**

<b>Name:</b>	Pressure Gauge	<b>Instrument tag No.:</b>	ET/PRG/013
<b>Make/Model:</b>	Baumer	<b>Least Count:</b>	0.1 kg/cm <sup>2</sup>
<b>Range:</b>	0 to 7 kg/cm <sup>2</sup>	<b>Environment Condition:</b>	23.2°C / 55 % RH
<b>Cal Date:</b>	24/07/24	<b>Next Cal Due:</b>	23/07/25
<b>Location:</b>	STP PLANT		
<b>SOP/ Reference Std:</b> ER-SP-045-R02			



**Detail of Master Equipment Used:**

<b>Name:</b>	Digital Pressure Gauge	NA	NA
<b>Instrument tag No.:</b>	INST/DPG/001	NA	NA
<b>Make/Model:</b>	Keller	NA	NA
<b>Cal Date:</b>	26/06/2024	NA	NA
<b>Next Cal Due:</b>	25/06/2025	NA	NA
<b>Certificate No:</b>	STC/CAL/24/01297	NA	NA
<b>Calibrated By:</b>	Star Calibration	NA	NA

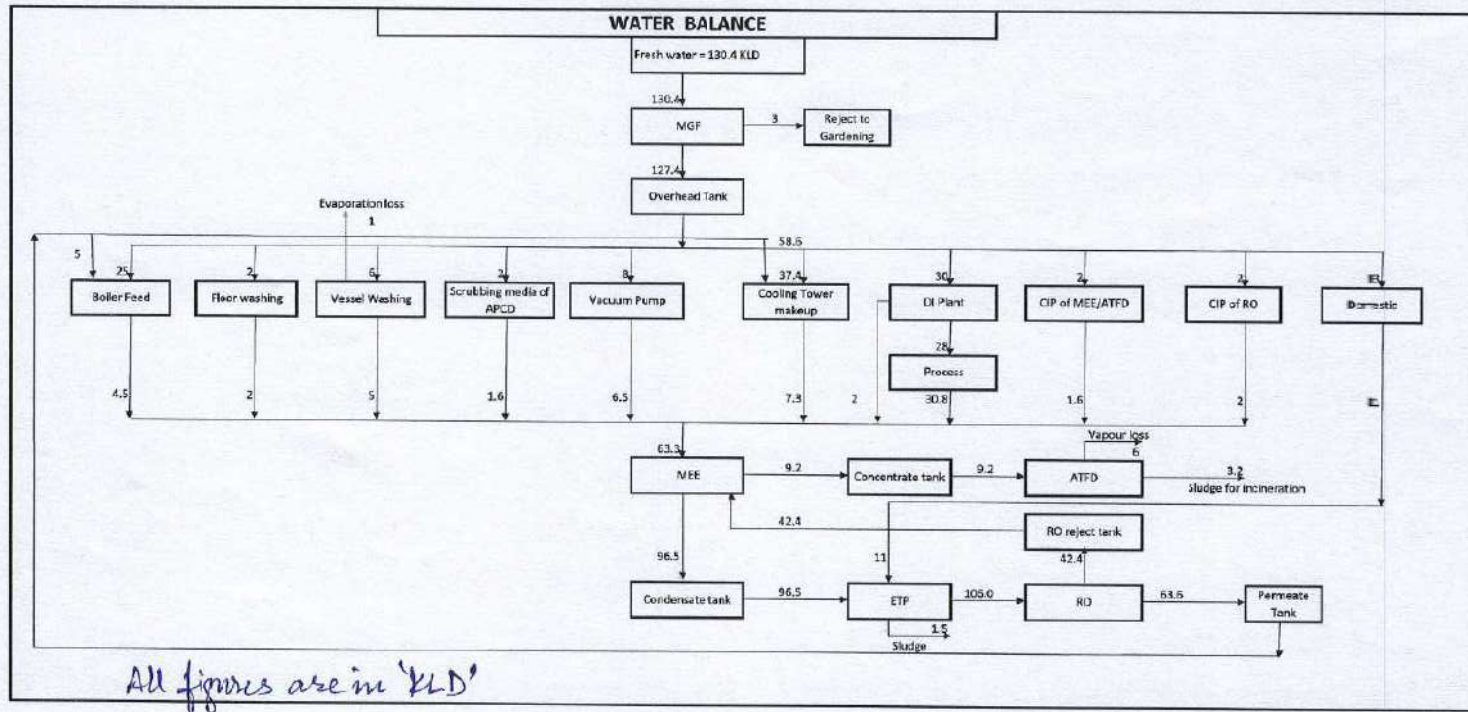
**Observation Record:**

Sr. No.	Standard Readings In (kg/cm <sup>2</sup> )	UUC Readings In (kg/cm <sup>2</sup> )	Difference In (kg/cm <sup>2</sup> )	Acceptance Criteria	Acceptance with tolerance (Yes / No)	Remarks
01	0.00	0.0	0.00	± 0.2 kg/cm <sup>2</sup>	Yes	ok
02	0.20	0.2	0.00	± 0.2 kg/cm <sup>2</sup>	Yes	ok
03	1.00	1.0	0.00	± 0.2 kg/cm <sup>2</sup>	Yes	ok
04	4.97	5.0	0.03	± 0.2 kg/cm <sup>2</sup>	Yes	ok
05	5.97	6.0	0.03	± 0.2 kg/cm <sup>2</sup>	Yes	ok

**Conclusion:** OK

<b>Calibrated By</b> (Engineering)	<b>Reviewed By</b> (Engineering)
 (Sign. & Date)	 (Sign. & Date)

**ANNEXURE R3/7 (Colly).**



M/s Advance Environ Solution  
  
 Partner



## JUSTIFICATION NOTE

### Background:

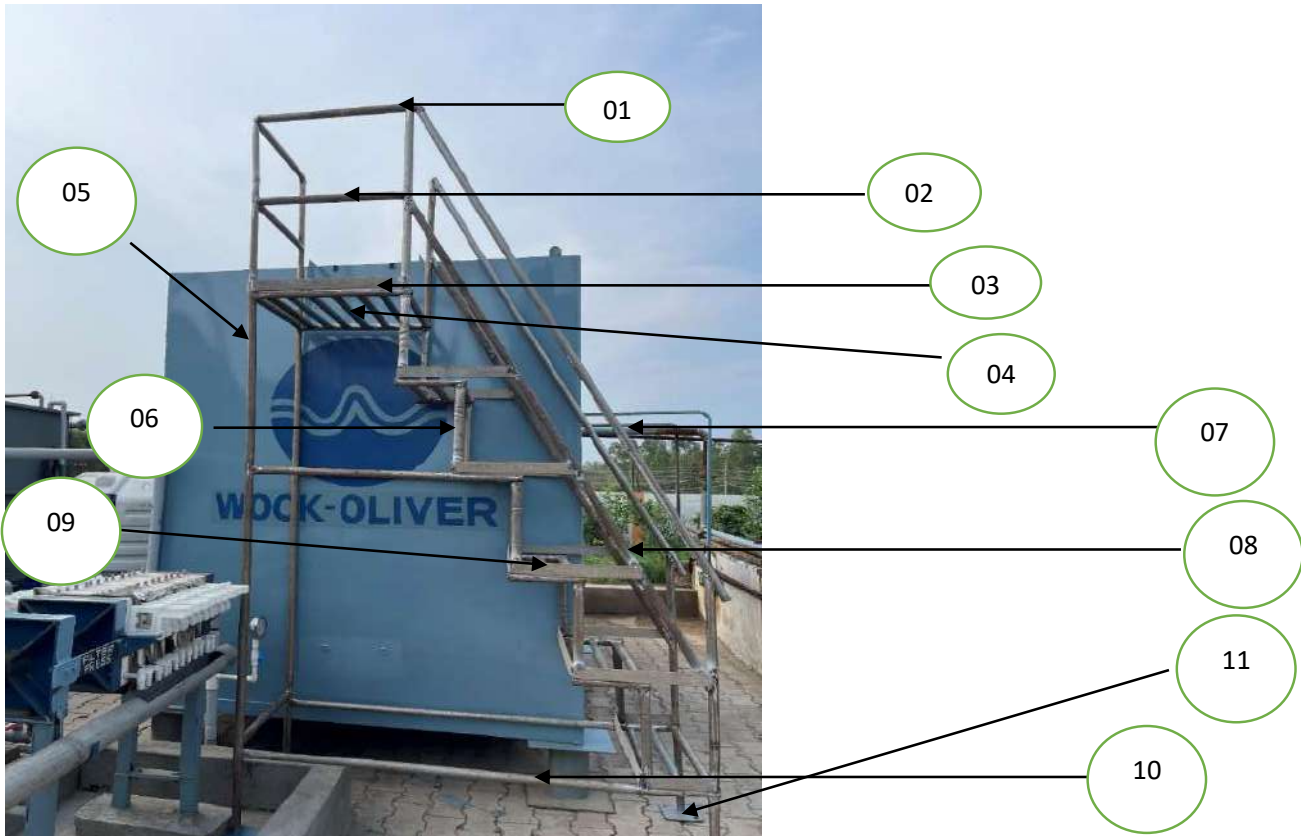
As per the previous water balance of our company, fresh water consumption per day was 130.4 KL. In March-2024 STP was installed as instructed by PPCB for separately treating domestic effluent.

Water balance has been updated after incorporating the STP. As per the updated water balance fresh water consumption has been reduced down to 114 KL per day.

### Justification:

1. In the updated water balance STP has been incorporated and domestic effluent has been diverted to STP.
2. Treated water is being used in the garden.
3. In earlier water balance, water demand in garden during summer season was not considered.
4. As per discussion during environment audit from Thapar institute, cooling tower blow down and boiler blow down has been diverted to ETP/LTDS treatment.
5. HTDS load of MEE has been reduced by diverting the cooling tower blow down and boiler blow down to ETP. Thus reduces the losses.
6. RO feed has been increased, resulting in increase in permeate generation. Hence, reduces fresh water consumption.

## STP STAIRCASE



Sr. No.	Components	Descriptions
01	Top rail	To protect the slip & fall hazard
02	Mid rail	Reduce the risk of fall hazards & injuries.
03	Toe Guard	To prevent the falling of tools, equipment's & Person.
04	Landing platform	A landing surface that is used as a working or standing location.
05	Vertical standards	Structural support, Stability of structure and Prevention of ladder flexing.
06	Ledger	A horizontal member which ties the standard at right angles and which may support putlogs and transoms.
07	Handrail	To protect the slip & fall hazards while incline and decline.
08	Mid rail	To protect the slip & fall hazards while incline and decline.
09	Step Toe guard	Reduce the risk of foot injury by shielding your toes
10	Bracing	To prevent the swing of the ladder
11	Fixed baseplate	To spread out the total weight of Stepladder.



Sr. No.	Components	Descriptions
01	Rungs	<ul style="list-style-type: none"> <li>• A ladder is a piece of equipment used for climbing up something or down from something.</li> <li>• It consists of two long pieces of metal with steps fixed between them</li> </ul>
02	Side rails	

**ANNEXURE R3/8 (Colly)**

**ACMEFIL ENGINEERING SYSTEMS PVT. LTD.**



An ISO 9001 : 2008 Certified Company

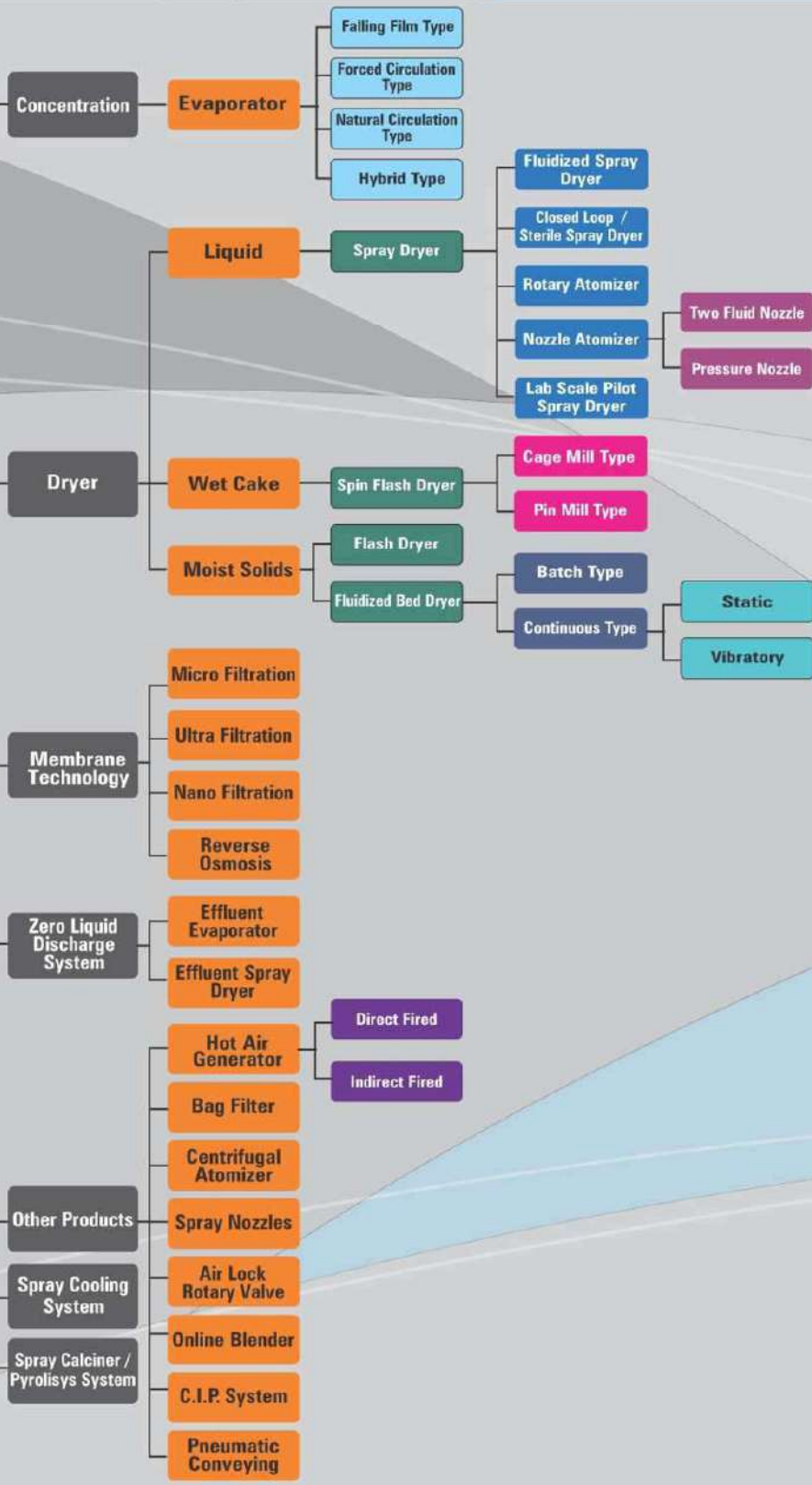
**Innovative  
Drying  
Solutions...**



**Engineers & Process Designers**

OUR PRODUCT RANGE

Concentration and Drying



## SPRAY DRYER

Spray drying is the transformation of feed from a fluid state into a dried particulate form by spraying feed into a hot drying medium.

### PROCESS OPERATION

Spray drying system consists of four process stages.

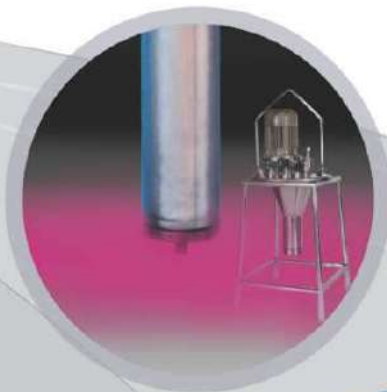
- A) Atomization of feed into a spray.
- B) Spray - Air contact
- C) Drying of spray
- D) Separation of dried product from the air.

Spray dryers are primarily used for drying of solutions and slurries into powders. AcmeFIL has serviced the industry by offering plants for a variety of applications ranging from heat sensitive products like enzymes, blood, flavours, to regular products like plant and animal extracts, milk, food and pharmaceutical applications, dyes and chemicals, detergents, catalysts to heat resistant products like ceramics, inorganic salts, glass and metals etc.

Depending upon the end product requirement there are different designs like rotary atomizer, pressure nozzle tower or two fluid nozzle type spray dryer.

### ROTARY DISC TYPE SPRAY DRYER

The Atomization of droplets is being achieved by high speed rotating centrifugal disc. Comparitively fine droplets are being formed by the centrifugal force of the disc thereby produced fine particles, generally in the range of 20 - 75 micron.



SPRAY PATTERN  
ROTARY ATOMIZER



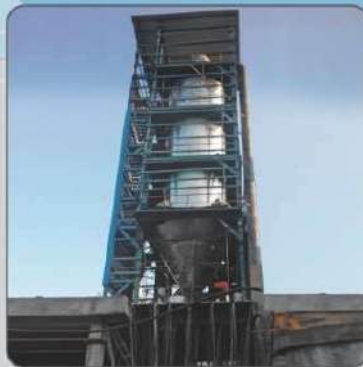
### NOZZLE TYPE SPRAY DRYER

Conversion of the feed into fine droplets achieved by pumping the feed under high pressure through an orifice is known as Pressure Nozzle Atomization and is popularly used to produce fine / coarse droplets resulting in producing a range of finer / granular particles.

Conversion of the feed into fine droplets achieved by using a two fluid nozzle system where the atomization of particles is done by purging compressed air.



SPRAY PATTERN  
NOZZLE ATOMIZER



## SPRAY DRYER

### FLUIDIZED SPRAY DRYER

Single stage spray dryers offer particle size of dried material from 50 – 150 microns. For producing large particles Fluidized Spray Dryers are employed. The atomization of the feed solution is done to produce large droplets and drying in the first stage is done keeping the moisture content of the powder relatively high.

The moist powder is dried in the integrated fluid bed system at the bottom of drying chamber using hot air and in the process, agglomeration of fines to larger particles take place. The absolute fines are carried with the exhaust air leaving the drying chamber to be collected in the cyclone and further recycled to the drying chamber.

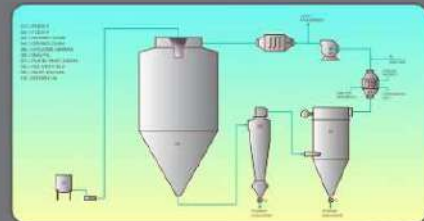
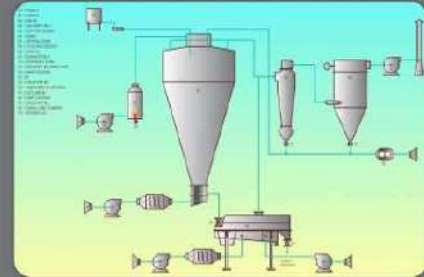
Tertiary drying system comprises of employing additional external drying to further increase the particle size.

### STERILE SPRAY DRYING SYSTEM

These are ideally used for pharmaceutical applications. The system is equipped with special inlet filters like micro filters, HEPA Filters, etc. and sterile micro filters for feed to prevent any microbial contamination.

### CLOSED LOOP SPRAY DRYING SYSTEM

These are used for drying the product in solvent base, by spraying the solution or slurries in a nitrogen atmosphere and recovering both the product and the solvent. The drying system can be equipped with fire detection, extinguishing and explosion suppressants. Such systems are ideal for handling solvents, heat sensitive products, prevent oxidation of dried product, and also provide aseptic conditions.



### SPRAY CALCINING / PYROLYSIS SYSTEM

SPRAY CALCINING / PYROLYSIS SYSTEMS is custom built thermal decomposition system used for continuous transformation of liquid feed into a calcined solid product by spraying the feed into a stream of high temperature hot drying air.



### SPRAY COOLING SYSTEM

Spray cooling is a process of conversion of molten mass into droplets which is exposed to cold air and thereby solidifying the liquid into defined particle size.

## SPRAY DRYING APPLICATIONS

### DETERGENTS

Zeolite  
Alkyl benzene sulphonate  
Detergents  
Bleach activator  
SLS

### POLYMERS AND RESINS

ABS  
Acrylic polymer  
Melamine - formaldehyde  
PVA  
Urea - formaldehyde

### BIO CHEMICALS & PHARMACEUTICALS

Herbal extracts  
Meat extracts  
Mineral extracts  
Dextrose  
Lactose, Protein, Hemoglobin

### CERAMIC INDUSTRY

Alumina  
Aluminum Silicate  
Ceramics  
China Clay  
Ferrites  
Silicon carbides  
Zirconia  
Steatites  
Titanates  
Glass Slurry

### INORGANIC CHEMICALS

Aluminum Chloride  
Barium Sulphate  
Calcium Chloride  
Manganese Sulphate  
Silica  
Sodium Silicate  
Catalysts

### FOOD INDUSTRY

Milk Products  
Egg Products  
Food Colours  
Beverages  
Food Additives  
Vegetable Proteins  
Herbal Extracts  
Malto Dextrine  
Soup Mixes  
Enzymes

### DYESTUFF & PIGMENTS

Reactive Dyes  
Disperse Dyes  
Acid Dyes  
Direct Dyes  
Vat Dyes  
Dye Intermediates  
Pigments

## FLUID BED PROCESSORS



**FLUID BED DRYER**



**FLUID BED GRANULATOR**



**CONTINUOUS VIBRATORY FLUID BED DRYER**



**CONTINUOUS STATIC FLUID BED DRYER**

ACMEFIL Fluid bed processing includes Drying as well as granulation, agglomeration and coating of particulate materials.

It is designed to uniform drying of the material at low temperature and is ideal for a wide range of both heat sensitive and non-heat sensitive products for low moist powder.

Incase of fluid bed coater cum granulator, Agglomeration and granulation may be performed in a number of ways depending upon the feed to be processed and the product properties to be achieved.

Fluid bed coating of powders, granules involves the spraying of a liquid on the fluidized powder under strictly controlled conditions.

We offer fluid bed drying system made up of S. S. 304 / S. S. 316 with GMP Standards. The complete unit is supplied with Suitable motor, blower, filters, filter bag, control panel. Heating system will be provided as per customer requirement i.e. Steam/Electric Heating systems and any other.

Fluid bed dryer has universal application like :

- Chemicals industry
- Pharmaceuticals and Bio-chemicals industry
- Polymers Industry
- Food and Dairy Industry

### Salient Features

- Available capacity of Fluid Bed Drier at 2.5 Kgs to 300 Kgs.
- Time, space, energy & Labour saver
- Automatic shaking arrangement
- Safe earthing device with low voltage relay
- Design confirming cGMP norms and its documentation
- Flame proof electrical
- PLC for automation and control
- Single piece construction with modular type design
- HEPA Filtration system
- Dehumidification of inlet air
- Solid Particle Flow Monitor
- Sampling port on product container

### VIBRATORY FLUID BED DRYER

These dryers have a bed of solid particles which are fluidized by passing a stream of air or gas upward through a specially designed perforated sheet. The upward velocity of air is so maintained so as to slightly lift the solid particles and set them in motion. This motion can be utilized to bring about mixing as well as forward movement of the solids, the air or the gas is heated and the heat is utilized to dry the solids. Fines get agglomerated to larger granules particles thus providing large size. A vibratory motor can also be used to provide a mechanical forward motion to fluidized solid particles.

## FLASH DRYER

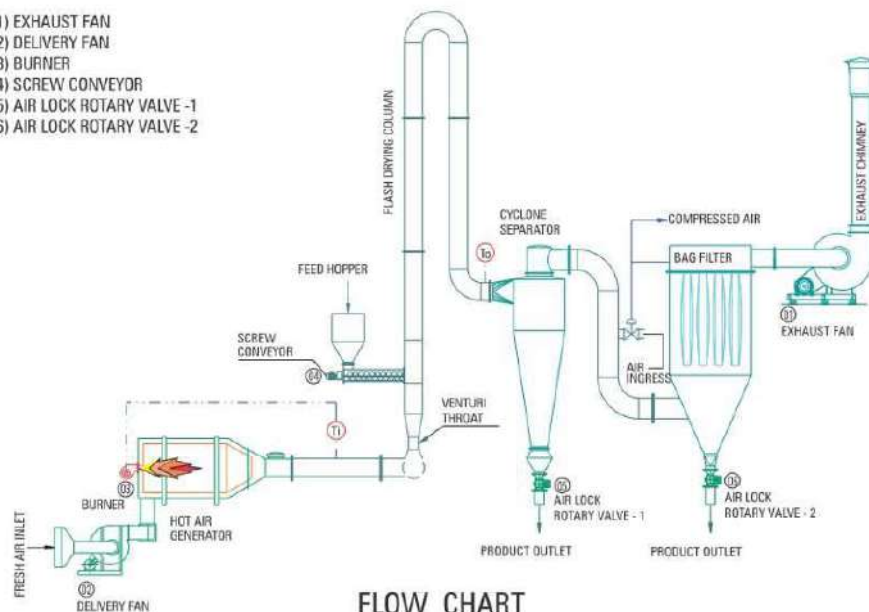
Flash Dryer offer an effective and efficient method of removal of surface or onbound moisture from a feed product. Flash Dryer are pneumatic driers having very low residence time within the equipment thus flashing off the moisture from the feed.

A flash dryer is used to dry residual moisture from centrifuged cakes or powders.

Drying process is accomplished by contacting the powder with hot air travelling at high velocity. The heat is used for drying and the air pneumatically conveys the powder for separation in a cyclone or a bag filter.



- 1) EXHAUST FAN
- 2) DELIVERY FAN
- 3) BURNER
- 4) SCREW CONVEYOR
- 5) AIR LOCK ROTARY VALVE -1
- 6) AIR LOCK ROTARY VALVE -2



## SPIN FLASH DRYER

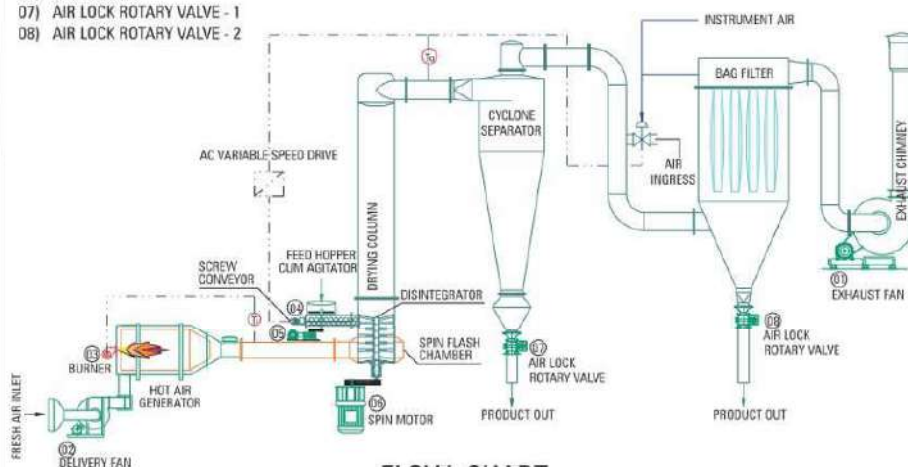
Simple Flash Dryer can not handle wet cake which is a slimy paste or gelatinous in nature. For drying these type of product specially designed disintegrators are incorporated with normal flash dryers which disintegrate the product simultaneously while drying and dried product is conveyed to the separation devices by hot air. These dryers are termed as Spin Flash Dryer. Spin Flash dryer is an easy process for drying Filter Cakes, Pastes and High Viscous Sludge etc.

### Advantages:-

- Material is directly fed from filter press to dryer.
- Less drying time hence less labour handling and quick production.
- Less electricity load.
- Various product ranges.
- Better drying efficiency thereby less Energy consumption.
- Better thermal efficiency thereby less Fuel consumption.
- Influence of heat on heat sensitive products is remarkably low even at high temperature.
- Lump breaker with variable speed feed screw feeder for non clogging of feed.
- Only two operators are required to operate the plant instead of number of laborers in conventional drying system.
- The environmental conditions remain clean.



- 01) EXHAUST FAN
- 02) DELIVERY FAN
- 03) BURNER
- 04) FEED AGITATOR
- 05) SCREW CONVEYOR
- 06) SPIN MOTOR
- 07) AIR LOCK ROTARY VALVE - 1
- 08) AIR LOCK ROTARY VALVE - 2



FLOW CHART

## MULTI EFFECT EVAPORATORS

A device used to convert a liquid into its gaseous form using heat energy. In the shell and tube type of evaporators manufactured by us, the heat source is in the shell side and the fluid under evaporation is in the tubes. Depending upon the duty condition, different types of evaporators are offered.

### TYPES OF EVAPORATORS

#### FALLING FILM EVAPORATORS



Falling film: - In these vertical evaporators the liquid enters the tube from the top and flows in the internal surface of the vertical tube, forming a thin film. These are used when the solution before and after the concentration is clear in nature.

#### FORCE CIRCULATION EVAPORATORS



Forced circulation:- These could be horizontal or vertical. The fluid is forced under pressure through the tubes and are useful in handling slurries too.

#### NATURAL CIRCULATION EVAPORATORS



Natural circulation evaporators:- These are vertical evaporators where the evaporation is induced in the tubes, thereby the vapor forcing the liquid to form a thin film along the walls of the tubes.



As thermal energy is used in evaporation, and with its increasing cost, it is important to optimize upon the operating costs. Multistage designs help achieve reduced operational costs. Energy is applied to the first stage of the evaporator. Vapor from this stage is reused in the next stage as the heating media. Similarly, from the second stage, vapors are used as heating media in the third stage and so on. Evaporators up to seven stages are designed, based on the product properties.

For further energy efficiency, Thermal Vapor Recompression systems or Mechanical Vapor recompression systems are used.

## MULTI EFFECT EVAPORATORS

### HYBRID EVAPORATORS

Depending upon the process conditions, the type of evaporator is selected. Many a times, combination of stages is required, or Hybrid evaporators are designed, based on the process progress.



Steam is normally the heating media, however, thermic fluid and other sources are also used. Waste heat recovery heat exchangers can also be offered.

### Agitated Thin Film Dryer / Evaporators :

Slurries, thick concentrates, viscous materials can be concentrated/ dried in this equipment. The fluid to be handled is spread on the inner wall of the dryer/ evaporator with the multi armed agitator resulting into a thin film on the walls. Steam/ Thermic fluid/ other heat source provides the thermal energy required for evaporation. Dried material/ cake or the concentrated fluid is continuously discharged from the system, while the evaporated water/ solvent is condensed in a condenser.

#### EVAPORATORS APPLICATIONS :

- Milk concentrate from 8 - 10% up to 45%
- Dilute caustic lye solution concentration
- Effluent concentrate before incineration
- Herbal extract concentration
- Weak Liquor low temperature concentration
- Fruit juice concentration



### MEMBRANE SYSTEM

AcmeFil offers the entire range of Membrane systems, used for producing process / portable water from ground, blackish, sea or waste water. Developing of specific applications like Dye desalting, Enzyme concentrations, extract concentrations, pre filtration of RO waters, Ultra filtration of process liquids etc. We provide turnkey optimal solutions for all applications, combining the membrane and other thermal technologies to give a cost effective solution.

Membrane technology is the latest and most advanced separation technologies available and used today. The main advantage of membrane technology is it brings separation without the use of expensive chemicals, minimal unavailable power, no thermal energy requirement and uses the least floor space for said application and proceeds in well defined process conditions.

Membrane technology is a generic term used for a number of different, very characteristic separation process. It is termed membrane technology, as a membrane is used in each of these processes. The principle of operation is very simple:- The membrane acts as a specific filter, allowing the defined molecules passage, rejecting the rest. Accordingly we have the following types of membranes Reverse Osmosis, Nano Filtration, Ultra Filtration and Micro Filtration.

Advancement in the membrane technology coupled with the variety of materials and configuration in availability, today membrane technology is competing effectively or better to conventional technologies.

## ZERO EFFLUENT DISCHARGE SYSTEM



Every industry produces both liquid-solid wastes and air emissions.

To overcome all the environmental problems and to meet the pollution control norms, AcmeFil has developed a Zero Liquid Discharge System by which industrial effluent treatment is economically handled introducing technology of evaporation, concentration, salt separation optionally high temperature spray drying. AcmeFil also offers Air Pollution Control Equipments like Bag Filter, Wet Scrubber and Electrostatic Precipitator.



Membrane System



Multi Effect Evaporator



Sludge Dryer



Evaporator and Spray Dryer



High Temperature Spray Dryer

**ACMEFIL ALSO MANUFACTURES**

**ROTARY ATOMIZER**



Acmefil Rotary Disc Atomizers for handling all types of fluids available in standard and tailor made models. Droplet size control with disc selection and speed control option available.



**PULSE JET AIR BAG FILTER**

Pulse Jet Bag Filter to handle air volumes with dust loads as continuous operations controlled pulse jet ensures clean filter bags for improved performance.

**HOT AIR GENERATORS**

Direct and Indirect Hot Air Generators of all capacities with choice of fuel type like wood, coal, lignite, gas, LDO, HSD, Furnaceoil, etc. Combination units for multiple fuel applications also available.



**INDIRECT FIRED HOT AIR GENERATOR**  
COAL / LIGNITE / WOOD FIRED



**INDIRECT FIRED HOT AIR GENERATOR**  
LDO / GAS FIRED



**FBC TYPE HOT AIR GENERATOR**



**ONLINE BLENDER**

This can be directly installed to a drying system where in the dry product's standardization with addition of salt and anti-dusting media can be done continuously.



**AIR LOCK ROTARY VALVES**

Air Lock Rotary Valves available in various sizes and manufactured in Aluminum body or S.S. with necessary drive options.

**ABOUT US :**

Incorporated in 2000, ACMEFIL ENGINEERING SYSTEMS Pvt. Ltd. is an Engineers and Process Designers, Supplier, Manufacturer and Exporter of Drying and Concentrating Equipment.

An ISO 9001:2008 Certified Company with expertise in designing equipment as per customer's requirement.

The manufacturing facilities of the company are based on the latest and the most advanced technology available today for plant and machinery manufacturing.

The continuous innovations and updates of our technical skills keep us growing along with our customers.

**SERVICES :**

Our clients truly benefit from our innovative and proven solutions. Our services include

- Selection of equipments as per the product properties
- Design, Engineering, Supply and Support Solution
- Installation, Commissioning and Training
- Complete Turnkey Solutions with User Friendly Designs
- Complete Solution for Zero Liquid Discharge
- Efficient Systems for Air Pollution Control
- Free Technical Supports for Trouble Shooting
- Plant Upgrade and Rebuild
- Plant Automation and Control
- Pilot Plant Facility Available for Process Development
- Spares and Maintenance
- After Sale Services

**MANAGEMENT & QUALITY CONTROL :**

We are maintaining strict quality control throughout the manufacturing process right from raw material purchase to testing to manufacturing and erection and commissioning of the equipment.

We have better workmanship and a good customer relationship through out the nation. We have supplied over 500 plants all over India for a variety of applications, as reflected in our clientele. We have a well experienced erection team to do the erection of equipments.

**ACME** - as the meaning is - '**THE HIGHEST POINT OF PERFECTION**' and AcmeFIL today strives to fill in the gap between the **PRESENT & ACME**.

**R & D CENTRE**

AcmeFIL Engineering Systems have pilot plant facilities for conducting trials for products and for development of new procedures of drying. These facilities are available to end users and research institutes at nominal charges for development applications at mutually agreed terms.

**ACMEFIL ENGINEERING SYSTEMS PVT. LTD.**

**ENGINEERS & PROCESS DESIGNERS**

**OFFICE & WORKS :** Plot No. 535, Phase II, G. I. D. C., Vatva, Ahmedabad - 382 445, India.

**TELE :** 91 - 79 - 2589 0722, 2589 7872, 4008 4502, 4008 4503

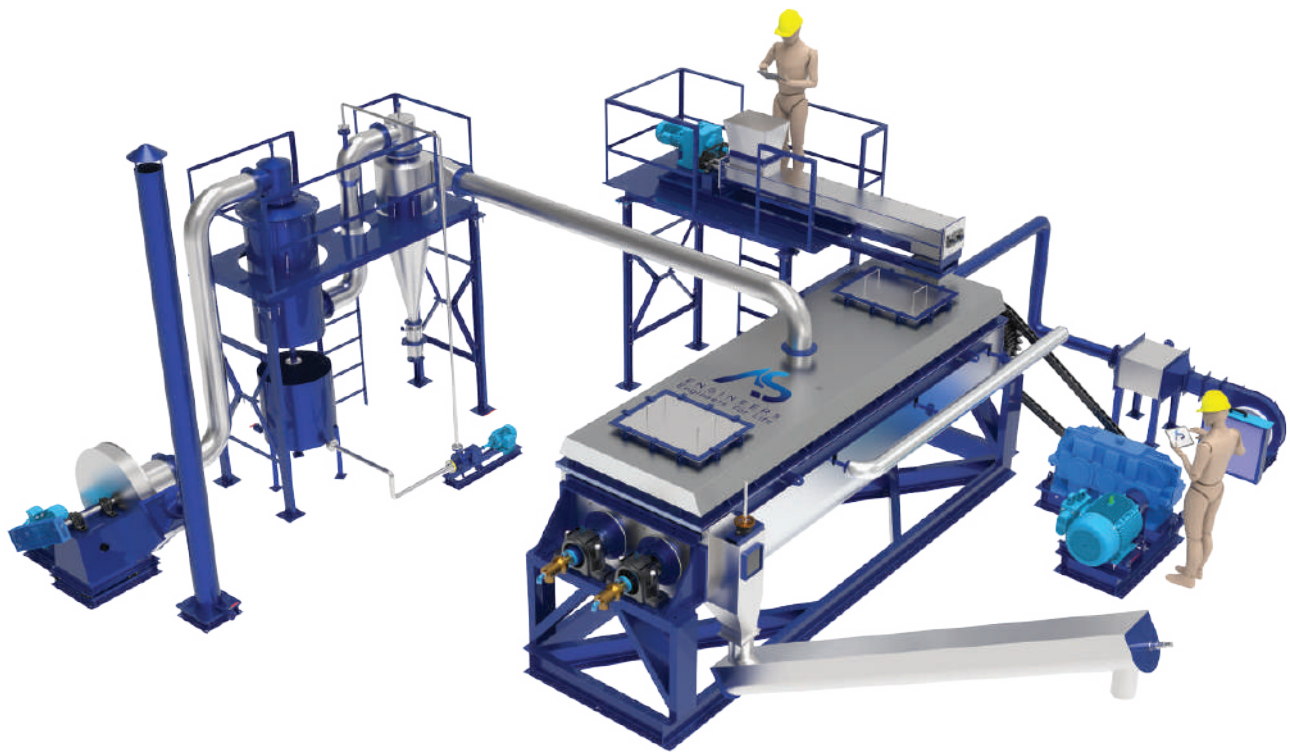
**Email :** info@acmeFIL.com • acmeFILspl@gmail.com • **Website :** www.acmeFIL.com

**MUMBAI :** B - 6, Ramyajeewan CHS Ltd., Mahakali Road, Andheri (E), Mumbai - 400 093.

**TELE :** 91 - 22 - 2837 6621 • **Email :** acmeFIL@gmail.com • acmeFIL@mtnl.net.in

# THE LEADING NAME IN PADDLE DRYER INDUSTRY

**AS**<sup>TM</sup>  
ENGINEERS  
Engineers For Life



## CONTACT

US NOW



+91 990 903 3851  
+91 823 867 7554



info@theasengineers.com



Plot No-514, Phase-II, Near  
Vatva Railway Station, G I D C,  
Vatva, Ahmedabad, 382445



### Municipal Sludge

Our Sludge Dryers are used in the co-combustion of sewage sludge in municipal solid waste plants where the sludge is dried up to 90% dry solids.



### Industrial Sludge

We supply Sludge Dryers that can process even the most toxic sludge from the ETP regardless of the industry type.



### Byproduct Valorization

Dried sludge has multiple uses depending upon its characteristics like, alternate fuel, bricks production, cement production & many more



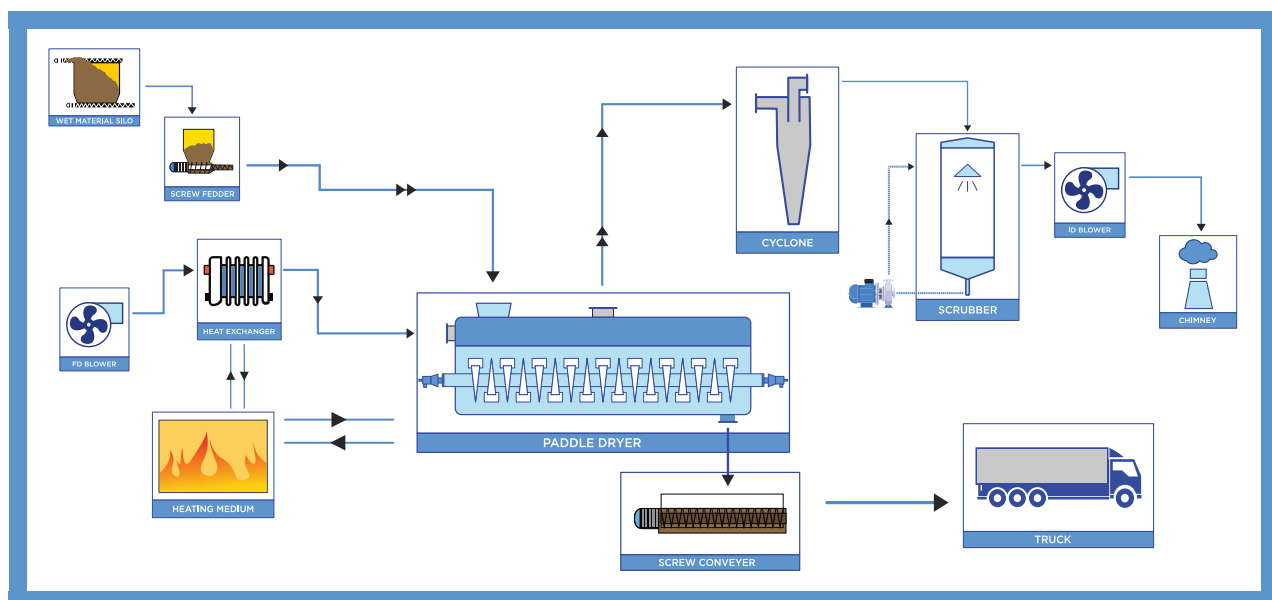
### Livestock Sludge

We offer specialized sludge dryers designed to handle livestock sludge from animals such as cows, pigs, goats, and chickens.

[www.theasengineers.com](http://www.theasengineers.com)

# HOW DOES YOUR PADDLE DRYER WORK

## Paddle Dryer Process Flow Diagram



### 1. Feed Introduction:

- Moist feed stored in wet material silo.
- Uniformly fed into the Paddle Dryer via screw feeder.

### 2. Air Filtration:

- Fresh air drawn by FD blower.
- Filtered to prevent impurities.

### 3. Air Heating:

- Air passes through Finned tube heat exchanger.
- Heated to desired temperature using a heating medium.
- Hot air used for scavenging and preventing solvent condensation.

### 4. Drying Process:

- Heat transfer from hollow shafts and jacket.
- Evaporation of solvent due to indirect contact with heating medium.
- Hammer paddles break down feed and remove bound moisture.
- Feed undergoes triple-phase changing process (plastic, shearing, granular).
- Achieves desired outlet moisture level.
- Options for direct conveying or bagging.

### 5. Solvent Separation:

- ID fan carries evaporated solvent and fines to cyclone separator.
- Cyclone separates and discharges major dried fines via rotary airlock valve.

### 6. Solvent Scrubbing:

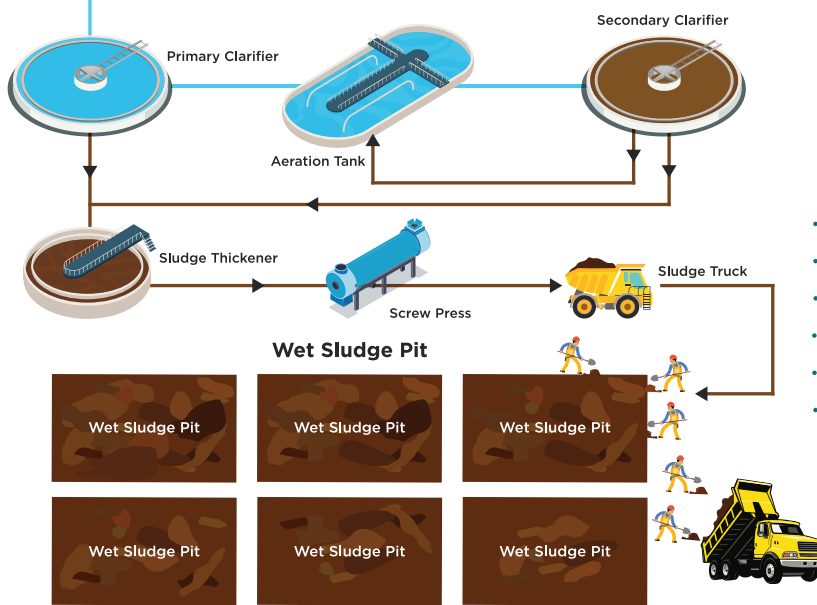
- Remaining dried fines and solvent undergo primary & secondary scrubbing.

### 7. Solvent Management:

- Option to recover or discharge evaporated solvent.
- Can be released into the atmosphere along with hot air in case of solvent being water.

# BENEFITS OF PADDLE DRYING SYSTEM

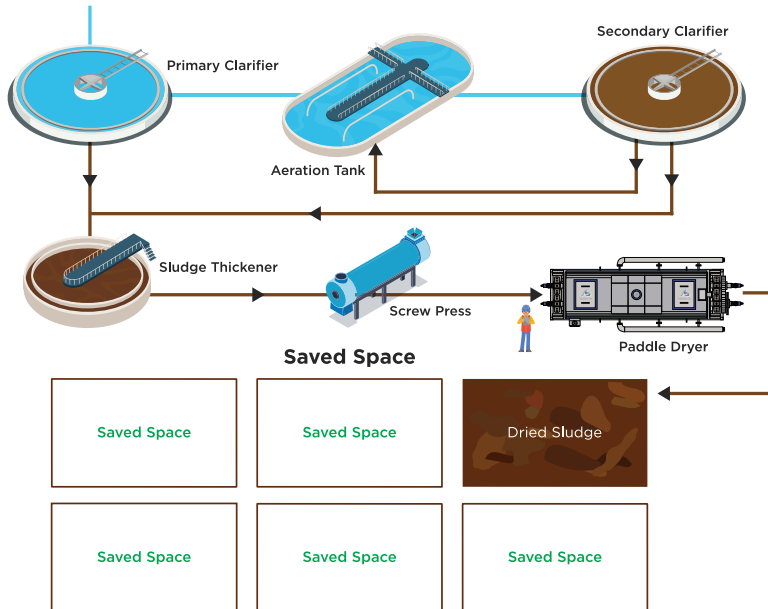
## Before Paddle Dryer



### Existing Problems

- Higher Labour Cost
- Higher Transportation Cost
- Higher Sludge Disposal Cost
- Deteriorated Hygiene
- Poor Handling
- Higher Space Utilization

## After Paddle Dryer



Lower Labour Cost



Lower Transportation Cost



Lower Sludge Disposal Cost



Improved Hygiene

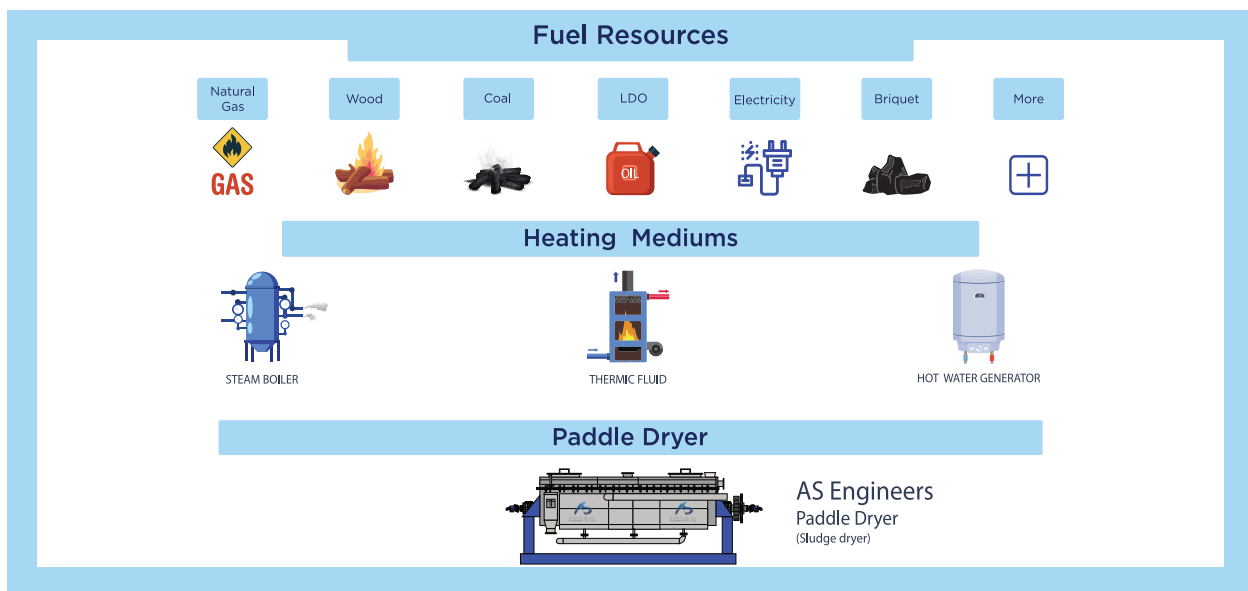


Enhanced Handling

## Know More About Paddle Dryer



### PADDLE DRYER HEATING MEDIUM GUIDE



### FREQUENTLY ASKED QUESTIONS

#### What is your Paddle Dryer used for other than Sludge Drying ?

- We can design the paddle dryer for other process like Heating, calcining, Solvent Stripping, Crystallizing, Reacting, Cooling, etc.

#### Do you offer Paddle Dryer for rent?

- Yes, Our company offers paddle dryer on rent please contact our sales team to know more about our services in detail.

#### Does AS Engineers offer pilot trial?

- Yes we offer pilot trial at our works & on site both with minimal cost to check your product viability and project feasibility.

#### How much does it cost approximately to dry sludge?

- Approximate cost of drying sludge with 80% wt/wt basis initial moisture to 20% final moisture generally consumes fuel as mentioned below.

- 1 kg Wood = 5 kg Sludge
- 1 kg Coal = 8.25 kg Sludge
- 1 Nm<sup>3</sup> Gas = 22.5 kg Sludge
- 1 kg LDO = 21 kg Sludge

#### Do you offer paddle dryer repair services and OEM spare parts ?

- Yes, we provide all kinds of repair services and spare parts, and we have successfully resolved various spare related issues like shaft retrofitment.



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**Client : Pure And Cure Healthcare Pvt.Ltd**  
**Address : Sundran Derabassi PUNJAB**  
**Contact Person : Naveen Kapil**  
**Designation : COO**

## Paddle Dryer Technical Offer

**QPD-207**

**Date: 07/08/2024**

Sr. No.	PLANT SPECIFICATIONS	A.S.E - 250 Kg/Hr - Feed rate
<b>Technical Specification</b>		
<b>1</b>	<b>PLANT SPECIFICATIONS</b>	<b>A.S ENGINEERS PADDLE DRYER</b>
	<b>PRODUCT TO BE DRIED</b>	<b>ETP Sludge</b>
	<b>Feed Rate (at 30 % Moisture )</b>	<b>250 Kg/hr</b>
	<b>Evaporation Rate</b>	<b>56 Kg/hr</b>
	<b>Powder Output Rate</b>	<b>194 Kg/hr @10 % Moisture</b>
<b>2</b>	<b>FEED PROPERTIES</b>	
	<b>Feed Solid Percentage</b>	<b>70 % w/w</b>
	<b>Feed temperature</b>	<b>30° C</b>
	<b>Feed Form</b>	<b>Wet Cake</b>
	<b>Bulk Density</b>	<b>1000 Kg/m<sup>3</sup> (Assumed)</b>
	<b>sp. Heat of feed material</b>	<b>0.5 kcal/kg °C (Assumed)</b>
	<b>PH</b>	<b>Neutral (Assumed)</b>
	<b>Feed Solvent</b>	<b>Water</b>
<b>3</b>	<b>PRODUCT PROPERTIES</b>	
	<b>Product Form</b>	<b>Dried Powder</b>
	<b>Product Moisture</b>	<b>10%</b>
	<b>Product temperature</b>	<b>90-100° C</b>
	<b>Number of collection Point</b>	<b>Single Point</b>
<b>4</b>	<b>OPERATING CONDITIONS</b>	
	<b>Drying Media</b>	<b>Steam 4 bar (g)</b>
	<b>Design Temperature</b>	<b>150 °C</b>
<b>5</b>	<b>SITE CONDITIONS</b>	



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	Plant Location	Punjab
	Ambient air temperature	Min. 10°C; Avg. 25°C; Max. 40°C
	Average Humidity	70 -80 % RH
	Installation	Indoor
	Area	Non Hazardous / Non Explosive /Non Flameproof
	Note:- The above mentioned temperature are selected for Sludge drying purpose only, it depends upon the properties of different material to be dried. The above Operating Temperatures can be varied depending upon the product properties.	
<b>6</b>	<b>UTILITIES</b>	
	Power	(415 Voltage/50 Frequency/3 Phase/ 4 Wires)
	Exhaust Fan Motor	2 HP
	Paddle Dryer Motor	7.5 HP
	Total Connected Load (HP)	9.5 HP
	Total Connected Load (KW)	7.087 KW
	Total Consumed Power (KW)	4.5 KW
<b>7</b>	<b>HEAT SOURCE DETAILS</b>	Steam
	Steam Consumption	95 kg/hr
<b>8</b>	<b>Process Water</b>	Clean, Filtered,
	Supply Pressure	At 2-3 kg/ cm2 (g)
<b>9</b>	<b>Space Requirement</b>	As per site layout
<b>10</b>	<b>Tolerance on Utilities</b>	+ / - 5%

# E N G I N E E R S



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## SCOPE OF SUPPLY

<b><u>1</u></b>	<b><u>FEEDING SYSTEM</u></b>	
<b>1.1</b>	<b>FEED HOPPER</b>	
	Material of Construction	SS-304
	Quantity	1 No.
	Capacity	50 Ltr
<b><u>2</u></b>	<b><u>DRYING SYSTEM</u></b>	
<b>2.1</b>	<b>PADDLE DRYER</b>	
	Material of Construction for casing and all material contact parts (DRYER BODY, BLADES, TOP COVER)	SS-304
	MOC of jacket outside the body	CS
	Supports	M.S.- IS 2062
	Quantity	1 Unit.
	Material of Construction of Shaft	SS-304
	Inspection Doors	Shall be provide
	Motor Make	CGL / BBL make, 7.5 HP, 1400 rpm
	Quantity	1 Unit.
<b>2.2</b>	<b>INTER-CONNECTING POWDER DUCT</b>	Paddle Dryer to Cyclone Separator
	Contact Parts	SS-304
	Flanges	M.S. painted
	Accessories	Necessary flanges, bends, Packing and Hardware etc
	Quantity	1 Unit.
<b>2.3</b>	<b>PRODUCT SEPERATION SYSTEM</b>	
	Cyclone Separator	
	Type	High Efficiency Type, Tangential Entry
	Contact Parts	SS-304
	Flanges	M.S. Painted
	Accessories	Mounting Bracket in M.S., Air Inlet and Outlet Connection, Double flap damper.
	Quantity	1 Unit.
<b><u>3</u></b>	<b><u>SCRUBBING SYSTEM</u></b>	Venturi Scrubber



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	Dip Type Scrubber tank type	Rectangular Type, Self-Supported Conical Bottom
	Capacity	100 Ltrs
	Material of construction	
	Tank	SS304
	Supports	M.S.Painted
	Accessories	Make Up Water Inlet, Scrubbed Water Outlet, Drain Plug.
	Quantity	1 Nos.
<b>4</b>	<b><u>INTER-CONNECTING EXHAUST DUCT</u></b>	
	scrubber to exhaust fan	SS-304
	Flanges	M.S. Painted
	Accessories	Necessary flanges, bends, Packing and Hardware's etc.
	Quantity	1 Set
<b>5</b>	<b><u>AIR HANDLING SYSTEM</u></b>	
	Exhaust Fan	
	Type	Centrifugal, Belt Driven
	Casing	Housing with inspection opening and drain in SS-304
	Impeller	SS-304 impeller statically and dynamically balanced.
	Shaft	EN – 8
	Stiffeners	M.S. – IS 2062
	Base Frame	M.S. Painted
	Motor Make	CGL / BBL Make, 2 HP,1450rpm
	Accessories	Damper, Anti Vibration Pad, Common Base Frame with Motor Mounting, Cloth Bellow, Pulley, V-Belts, Safety Guard, Cleaning Door, Drain Plug and Stiffeners etc.
	Qty	1
<b>6</b>	<b><u>EXHAUST Duct</u></b>	
	Material of construction	MS
	Length	4 Mtr
<b>7</b>	<b><u>INSTRUMENTS &amp; CONTROL SECTION</u></b>	
7.1	MCC Panel	Cubicle Type
	Panel Mounted Instrument	
	Mimic diagram of the Dryer	1 No.
	Ammeter for incoming Power	1 No
	Voltage meter for incoming voltage supply	1 No



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	Indicating lamps for each incoming phases	1 Set.
	Push Buttons for On / Off operation of Individual starter	1 No.
	Electrical switch gears	L&T or Siemens
7.2	Locally mounted Instruments	
	Inlet Temperature Element	1No. Each
	Outlet Temperature Element	
7.3	Documentation	Provided
	Operation and Maintenance Manual, Final Equipment layout, (DISPATCH TIME)	
<b>8</b>	<b><u>EXCLUSIONS</u></b>	
	All statutory, legal, government formalities and permissions for the erection and operation of plant.	
	All Civil, foundation work, Civil engineering for supporting structure to house the equipment including platforms, ladders, catwalks pipe rack, foundation bolts, supports etc. is to be done by customer as per our layout drawings and foundation drawings.	
	Powder cooling system, Powder Conveying System, Powder bagging, weighing & sealing equipment - powder to be collected at the bottom of discharge valve of drying chamber and cyclone.	
	Electricity, Water and other utilities etc. required during site fabrication / erection/Operation work.	
	Electrical Earthings, Pit, Electrical cable, Cable Trays, Lighting, Junction Box and Local Control Station etc.	
	All piping works and fittings beyond battery limits, if any.	
	Client should arrange feed Storage and conveying system to feed hopper.	
	Work force for plant operation.	
	Spares – can be quoted optionally	
	Supporting Structure – Client Scope	
	Instrument air tubing connection to individual instrument, if applicable.	
	Testing and quality control instruments.	
	Control Room for electrical and control panel.	
	Electrification of the building, fire hydrants, lightning arrester etc.	
	Customer should give site clearance before starting fabrication and erection work of the equipment at site.	
	Customer has to provide free lodging, boarding and local conveyance at site for our team.	
	Unloading /storing / security / insurance of equipment at site.	
	Crane Facility should be made available by client whenever required for Site erection work free of cost.	
	Equipment necessary for machine / equipment positioning, e.g. cranes, forklift trucks, etc.	
	Erection and commissioning	
	Any other item not specifically mentioned in this offer.	



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<u>5</u>	<u>BATTERY LIMITS</u>	
	Electrical Power	Main electrical supply of 440 V/3 Phase/50 Hz/4 wire with switch fuse unit is to be connected to our control panels with proper earthing
	Heating Medium	Nozzle of paddle dryer.
	Feed	Charging to be arranged
	Product Outlet	Dried product from the outlet of drying chamber is to be collected by client.
	Exhaust Air	Exhaust at the outlet of the exhaust duct paddle dryer .
	Instrument Air	Instrument air at 4 Kg/cm <sup>2</sup> g pressure will be connected for instrumentation by client, if applicable.
	Lubrication Oil	Lubrication oil to be replenished at all the rotating parts and lubrication points by client.
	Drain	Drain from the system (at particular equipment and piping) is in client's scope.
	Civil, Foundation, Structure	Civil, foundation and structural work for building is to be completed by client before erection & installation of the plant as per our G.A. drawing.
	Man Power	Sufficient man power at the time of commissioning is to be provided by client.
	Storage	A lock and key storage room to keep our tools, equipment, and other related parts at site at the time of erection and commissioning is to be provided by client.



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### GENERAL TERMS AND CONDITIONS

1	<b>SPECIFICATIONS:</b> The Scope of supply shall be governed by supplier's offer and supplier's acceptance of purchaser's order. Technical Specifications, dimensions, design, description etc are not binding on supplier in minute details and are subject to reasonable alteration /change without notice.
2	<b>LOADING UNLOADING:</b> We shall do free loading from our factory and unloading at your site will be in your scope.
3	<b>PACKING AND FORWARDING:</b> Necessary packing will be done by us in accordance with our standard practice.
4	<b>TESTS:</b> Equipment shall be tested as per standard practice of manufacturer. Additional tests, if any, required by purchaser shall be subjected to supplier's confirmation and acceptance of extra charges by the purchaser.
5	<b>MAINTENANCE MANUAL:</b> We shall provide two sets of Operating and Maintenance manual along with relevant drawing and necessary test/guarantee/warranty certificates at the time of commissioning of the equipment.
6	<b>TRAINING:</b> Provide complete training to client's personnel on operation and maintenance of the equipment.
7	<b>INSPECTION:</b> Inspection of the equipment before dispatch will be conducted by client at our Factory. An adequate prior notice will be given for Inspection before dispatch.
8	<b>ORDER CONFORMATION:</b> All orders placed on us directly or through our regional offices will be binding on us only after our Head Office in Ahmedabad has issued an order Confirmation.
9	<b>MODE OF DELIVERY:</b> The goods may be dispatched in one or more lots at supplier's option. If supplier is required to dispatch the goods on behalf of customer, supplier can arrange to do so on freight to pay basis on the understanding that no liability is attached to supplier. In such case, freight charges contracted by supplier on behalf of the purchaser shall be final and binding on the purchaser.
10	<b>HANDOVER:</b> Unless and otherwise specified in the order and accepted, handing over of the equipment and / or installation would be considered as completed and a formal completion certificate shall be issued by the purchaser / user. The equipment/system, to be supplied by supplier, shall be site erected and commissioned at purchaser's site. This equipment/system, shall be legally transferred to the buyer only after realization of full and final payment.
11	<b>WAREHOUSING:</b> If payment is not made within 15 days from the date of Proforma Invoice, supplier reserves the right to divert the ordered material. Supplier will give fresh delivery period and new price at the time of diversion which will be binding on the purchaser and contract cannot be rendered void on this account. If the goods are not diverted, charges for storage, insurance and interest at 1% of the Invoice value each week/part thereof commencing 15 days from the date of Proforma Invoice will be charged. Warehousing charges are subject to a maximum of 5% of the Invoice value.
12	<b>ADVANCES:</b> Advances paid against an order shall not be subject to any interest. We shall have right to adjust against such advance's payments, which might become due to delay in lifting the ordered equipment or because of any incidental expenses we may incur on the purchaser's behalf. The advances shall be forfeited in case request for cancellation of order is accepted by us.
13	<b>EXCESS MATERIAL:</b> With the intention to complete the Plant commissioning on time, we do normally send additional/excess material like pipes, fittings, hardwares, structural items and other such small equipment etc. We should be allowed to take back such equipment, at a time mutually convenient to both the parties.
14	<b>GUARANTEE:</b> We shall demonstrate the performance guarantee runs of the rated capacity as defined in the basis of design for the agreed single product. This trial run shall be for a cumulative period of 24 hours, after completion of erection and testing. This is further subject to availability of uninterrupted and predetermined quantity & quality of raw materials, utilities, plant operators and workers. The tolerance in capacity of our plant is $\pm 5\%$ .



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15	<p><b>WARRANTY:</b> The offered equipment is warranted for trouble free operation, mechanical workmanship and material for a period of 12 months from the date of commissioning or 18 months from the date of dispatch/readiness of equipment/material, whichever is earlier. The warrantee is valid subject to routine proper maintenance of the equipment by the client.</p> <p>The standard warrantee clause of original manufacturer shall be applicable for all the bought out items like blowers, motor, pumps, instruments etc., The warrantee shall not be applicable for consumable, Mechanical Seals / rubbers / plastics / glass /electrical / electronic items / rotary equipment, etc. The warrantee shall preclude any claim direct or indirect consequential or liquidated damages arising out of said contract and our liability shall be limited to repair / replace any of the defective components at our option.</p>
16	<p><b>CANCELLATION:</b> Order received &amp; acknowledge by us shall not be subject to cancellation, either wholly or partly or any reason whatsoever without our consent.</p>
17	<p><b>GENERAL LIEN:</b> We shall be entitled to general lien on goods in our possession or dispatched for all money due to us from the purchaser, both under the contract or any other account and we shall also be entitled to apply any money in our hands under any contract due to us under any other contract or contracts.</p>
18	<p><b>FORCE MAJEURE:</b> This offer is subjected to force majeure by which it means causes such as war, invasion, civil disobedience, government orders or restrictions, strikes, lockouts, riots, fires, epidemics, sabotages, trade embargoes, earthquakes, floods, accidents, breakdown of machinery, delay or inability to obtain labour, raw materials, wagons, shipping space or any other causes whatsoever beyond our reasonable control, affecting us or our sub-contractors, suppliers etc.</p>
19	<p><b>JURISDICTION:</b> All contracts between purchasers &amp; ourselves are deemed to be entered into, at Ahmedabad, and are therefore subject to the jurisdiction of courts at Ahmedabad.</p>
20	<p>We hope that you will find our above techno-commercial proposal to be similar with your requirement. We would be glad to be of assistance to you in further technical as well as commercial clarification.</p>
21	<p><b>Note:</b> The equipment is designed for removal of moisture from the sludge. Any major change in characteristics of feed material will respectively affect the performance of the equipment. Odour removal is not considered.</p>

E N G I N E E R S



ENGINEERS

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**MICROVISION GROUP**  
VALUE AND VISION FOR ENVIRONMENT

**Client : Pure And Cure Healthcare Pvt.Ltd**  
**Address : Sundran Derabassi PUNJAB**  
**Contact Person : Naveen Kapil**  
**Designation : COO**

### Paddle Dryer

QPD-207

Date: 07/08/2024

Sr. No.	PLANT SPECIFICATIONS	ASE - 250 Kg/Hr – Feed Capacity Paddle Dryer
<b>COMMERCIAL TERMS AND CONDITIONS FOR SUPPLY</b>		
1	Price for design, manufacturing and supply of 250 Kg/Hr Feed Capacity Paddle Drying System.	Rs.31,00,000/- Rupees Thirty One Lacs Only
2	Supervision charge for erection and commissioning	Rs.55000/- lumpsum for a period of 07 days.
3	Price Basis	Our above prices are Ex-works, Ahmedabad.
4	PACKING & FORWARDING	Packing and forwarding will be charged 2 % or extra at actual to client's account.
5	Taxes	Total 18 % will be charged or as per the prevailing rules.
6	FREIGHT & INSURANCE	Transportation and Transit insurance will be to the client account.
7	Delivery	12 - 15 weeks from the date of order and advance
8	Payment Terms	40 % Advance along with technically and commercially confirmed order. 60% along with all taxes and duties against Proforma invoice prior to dispatch.
9	VALIDITY	15 days from the date of offer

## ANNEXURE R3/9(Colly)



## drexel® electronics &amp; engineering products (p) ltd

Works: 442, JLPL, Industrial Area  
Sector 82, Mohali (PB) 160055  
Ph: +91172 4190098  
Mob: +91 9988610098  
Email: sales@drexel.in  
Web: www.drexel.in

Corp: 13/2, 2<sup>nd</sup> & 3<sup>rd</sup> Floor  
Opp. Bus terminal Mehrauli,  
New Delhi 110030  
Toll Free: 1800 123440098  
Mob: +91 9316660098  
info@drexel.in

## Calibration &amp; Test Certificate

Sample Code	DXL/2023/052201	Page No.:	01/01
Customer Name & Address:	Akums Lifesciences Limited Village Sundran Post Office Mubarakpur Tehsil Derabassi, Distt SAS Nagar-140507		
Calibration Date:	22-05-23	Calibration Due Date	21-05-24

## PRODUCT DETAIL:

Product Name:	Sewage/Effluent Treatment plant Monitoring System	Make:	Drexel
Product Sr. No.:	ETP/2016/01	Model No.:	DX4P-W

## Results:

Calibration of STP-ETP System at UV - 200 nm - 350 nm Wavelength						
Sr. No.	Parameters	Standard Range(mg/l)	Zero Calibration	Span Calibration		Remarks
				RO/Tap Water Results (mg/l)	Sample Results (mg/l)	
1	BOD	0-2000	0mg/l	1.6 mg/l	7.8 mg/l	OK
2	COD	0-2000	0mg/l	4.9 mg/l	47.6 mg/l	OK
3	TSS	0-2000	0mg/l	3.4 mg/l	26.8 mg/l	OK
4	pH	0-14	7 pH	7.4	7.45	OK

*H Singh*

Tested By  
Mr. Harpreet Singh  
Service Engineer



*M Maninder Singh*

Checked by  
Mr. Maninder Singh  
Operations Head (Production & Execution)





## drexel® electronics & engineering products (p) ltd

Works: 442, JLPL, Industrial Area  
Sector 82, Mohali (PB) 160055  
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Opp. Bus terminal Mehrauli,  
New Delhi 110030  
Toll Free: 1800 123440098  
Mob: +91 9316660098  
info@drexel.in

### Calibration & Test Certificate

Sample Code	DXL/2024/052003		Page No.: 01/01
Customer Name & Address:	Akums Lifesciences Limited Village Sundran Post Office Mubarakpur Tehsil Derabassi, Distt SAS Nagar-140507		
Calibration Date:	20-05-24	Calibration Due Date	19-05-25

#### PRODUCT DETAIL:

Product Name:	Sewage/Effluent Treatment plant Monitoring System	Make:	Drexel
Product Sr. No.:	ETP/2016/01	Model No.:	DX4P-W

#### Results:

Calibration of STP-ETP System at UV - 200 nm - 350 nm Wavelength						
Sr. No.	Parameters	Standard Range(mg/l)	Zero Calibration	Span Calibration		Remarks
				RO/Tap Water Results (mg/l)	Sample Results (mg/l)	
1	BOD	0-2000	0mg/l	1.4 mg/l	10.2 mg/l	OK
2	COD	0-2000	0mg/l	5.1 mg/l	52.4 mg/l	OK
3	TSS	0-2000	0mg/l	3.7 mg/l	32.8 mg/l	OK
4	pH	0-14	7 pH	7.4	7.52	OK

*H Singh*

Tested By

Mr. Harpreet Singh  
Service Engineer



*M Maninder Singh*

Checked by

Mr. Maninder Singh  
Operations Head (Production & Execution)



**ANNEXURE R3/10**

**Implementation of Karnal Technology**



**ANNEXURE R3/11 (Colly)**  
**INSTALLED INTEGRATED SYSTEM**



INSTALLED INTEGRATED SYSTEM



## INSTALLED INTEGRATED SYSTEM



## INSTALLED INTEGRATED SYSTEM



**INSTALLED INTEGRATED SYSTEM**



**ANNEXURE R3/12**

**PERFORMANCE AUDIT REPORT**

**OF**

**M/S AKUMS LIFESCIENCES LTD.**


**VILLAGE SUNDRAN,**

**P.O. MUBARAKPUR,**

**TEHSIL DERABASSI,**

**DISTRICT MOHALI, PUNJAB, 140501**

**Conducted By**



**Thapar Institute of Engineering Technology**

**Thapar Technology Campus, Patiala**

## **ACKNOWLEDGEMENT**

We extend our sincere appreciation to the M/s Akums Lifesciences Limited, for entrusting us with the assignment and providing invaluable encouragement throughout the preparation of this report.

Our gratitude is extended to the management of M/S Akums Lifesciences Ltd. Village Sundran, Derabassi, Punjab for their unwavering support in the execution of this project.

Special thanks are conveyed to the HSE Department of M/S Akums Lifesciences Ltd. for their unwavering cooperation and support during the field study, essential for the successful completion of this audit.


We also acknowledge, with great appreciation, the crucial role played by the entire Thapar Institute of Engineering and Technology (TIET) Management, whose permission enabled us to accomplish this task. TIET's support in sampling, analysis, and report preparation for water & air analysis, and ETP adequacy study is highly valued.

Lastly, we express our gratitude to the faculty members, laboratory technicians, staff, and research scholars of the School of Energy and Environment, TIET, for their unwavering support throughout the audit's preparation.

## CERTIFICATE

We certify and undertake to say the following:

1. The report is based on the data collected at the site by visiting various times during the Audit and after verifying information provided by M/S Akums Lifesciences Ltd., technically and legally.
2. The data collection has been carried out diligently and truthfully.
3. All data measuring devices used by the team were in good working condition and have been calibrated as per the guidelines.
4. Thorough professional approach, care, and diligence have been taken in preparing the water and air audit report and the contents thereof are a true representation of the facts and figures.



Dr. Anoop Verma

Professor and Head

Department of Energy and Environment

Thapar Institute of Engineering & Technology, Patiala

## EXECUTIVE SUMMARY & CONCLUSION

### **SUMMARY**

This report provides an in-depth analysis of the performance of various environmental treatment systems, including a Sewage Treatment Plant (STP), an Agitated Thin Film Dryer (ATFD) with enhanced capacity, and a Bag House Filter attached to a 6 TPH boiler. These systems are installed for managing water and air pollution, ensuring regulatory compliance, and maintaining environmental standards. The STP demonstrates consistent and effective treatment efficiencies for Chemical Oxygen Demand (COD), Biological Oxygen Demand (BOD), Total Suspended Solids (TSS), and Total Dissolved Solids (TDS) across different times of the day. The pH levels remain stable, indicating good control over the treatment process. The performance of the STP is highlighted by the lack of significant variations in treatment efficiency at different times. The ATFD shows total removal of condensate water. The enhanced capacity of the ATFD's performance across various parameters demonstrates the efficiency of the ATFD system. The Bag House Filter effectively reduces particulate matter levels from the boiler emissions, maintaining compliance with emission standards. Regular monitoring and maintenance are essential to sustain its performance and prevent operational issues.

To ensure continued effectiveness, regular monitoring of critical parameters is essential to maintain stable and effective treatment processes. Additionally, optimizing the removal processes of PCDs, Routine checks and maintenance of all treatment units, are necessary to prevent breakdowns and inefficiencies. Enhancing dust disposal arrangements and investigating sources of solid waste to optimize processes are also recommended.

## **CONCLUSION**

In conclusion, the integrated environmental treatment systems demonstrate robust performance in managing and controlling both water and air pollutants. The STP and ATFD systems effectively reduce organic pollutants, suspended solids, dissolved solids, and various metals and ions, while the Bag House Filter ensures compliance with particulate matter emission standards. Regular monitoring, process optimization, and routine maintenance are key to sustaining the effectiveness and efficiency of these treatment systems. Overall, these systems contribute significantly to environmental protection and regulatory compliance.

## **HIGHLIGHTS**

### **1. STP (SEWAGE TREATMENT PLANT) :-**

- The STP design is robust and the latest state of art.
- Performance of STP operation is up to the mark. The outlet parameters are within the prescribed limit.

### **2. ATFD (Agitated Thin Film Dryer) :-**

- The ATFD design and performance is perfect at the enhanced capacity.
- Further optimisation can help energy saving and some more condensate availability.

### **3. BAG HOUSE FILTER :-**

- The design of the bag house filter is perfect and is achieving the parameters as discussed.
- Combustion efficiency and Draft management will further inform the efficiency of Bag House Filter.
- Combustion efficiency will reduce the PM level in inlet gasses and reduce Co gas.
- Draft management will help to reduce the energy loss and help in improving the life of bags.

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3. SITE LOCATION

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2. PROCESS DESCRIPTION
3. DATA AND METHODOLOGY
4. OBSERVATION AND ANALYSIS

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## CHAPTER 1: INTRODUCTION

---

The primary objective of this study is to comprehensively assess and evaluate the adequacy of the pollution control devices- Sewage Treatment Plant (STP), Baghouse filter and Agitated Thin Film Dryer (ATFD) at M/s Akums Lifesciences Ltd., Village Sundran, P.O. Mubarakpur, Tehsil Derabassi, Distt. Mohali, Punjab, 140507. Additionally, the study aims to provide insights and comments on the overall effectiveness of the pollution control devices implemented in the industry.

The scope of this comprehensive study encompasses the following key areas:

- Technical Audit of Pollution control devices: Perform a technical audit of Pollution Control Devices (APCD), assessing their efficiency, identifying any operational deficiencies.
- Guidance for Implementation: Guide the industry in implementing rectifications required to address non-compliance, design defects, and procedural lapses related to air pollution control.
- Reviewing the effectiveness of monitoring and control mechanisms in place.
- Recommending enhancements to real-time monitoring and control systems.

By addressing these specific areas within the scope of the study, the objective is to provide a comprehensive and detailed analysis of pollution control devices at M/s Akum Lifesciences Ltd.

### INTRODUCTION OF AUDITING AGENCY

Dr. Anoop Verma completed his B.E. (Chemical Engineering) in 2000, the M.Tech (Env. Sc. & Tech.) in 2004, and Ph.D. degree (Env. Engg.) in 2014. He has executed various R&D projects in the area of wastewater treatment using Advanced Oxidation Processes. Dr. Anoop Verma holds extensive expertise in environmental engineering, with a proven track record of conducting environmental assessments and audits for various industrial and commercial

entities. With a deep understanding of regulatory frameworks and best practices, Dr. Anoop Verma brings a holistic approach to evaluating environmental impact. Joining Dr. Anoop Verma and his team are a group of seasoned professionals from Thapar Institute's esteemed faculty and research centres, including experts in very broad area of environment such as Hydrogeology and Groundwater Management, Environmental Engineering, Sustainability and Green Practices, Regulatory Compliance and Legal Advisors.

Together, the Thapar Institute team embodies a diverse range of skills and knowledge, ensuring a thorough and unbiased assessment of M/S Akums Lifesciences Ltd. operations. By leveraging their collective expertise, the study team aims to provide actionable recommendations that will guide the industry toward environmentally responsible practices, thereby addressing concerns related to groundwater quality disruption.

### **ABOUT INDUSTRY**

M/s Akums Lifesciences Ltd. Derabassi is a Private Limited Company, established with an aim to serve the global Pharma market with the quality pharmaceutical APIs and bulk intermediates at a very competitive cost. Company has state of art production facilities backed by good QC facilities, Utilities, Storage facilities and full Effluent treatment facilities with zero discharge. Company has got all necessary approval to run its manufacturing activities and in due course of time will go for filing of DMF in the regulated market. Company has a management team with the persons who have more than 28 years of experience in big Indian pharmaceutical companies (MNCs) in all the related fields mainly in R & D, Regulatory, Project executions, Production, Commercials and ESH. Figure 1.1 shows the plant location in India map and Figure 1.2 shows the plant layout of the industry.

### **SITE LOCATION**

The present study focuses on M/s Akums Lifesciences Ltd. Derabassi, located in the foothills of Himalayas at Derabassi which is 9 Km from City of Chandigarh and

4.1 Km from Panchkula via Nada Sahib road. Figure 1 shows the plant layout of the industry.



**Figure-1** Buffer map of M/s Akums Lifesciences Limited

## CHAPTER 2: SEWAGE TREATMENT PLANT

---

This report provides an analysis of the water treatment process at different sections of the Sewage Treatment Plant (STP) at three different times of the day: 9:00 AM, 1:00 PM, and 5:00 PM. The parameters monitored include pH, COD, BOD, TSS, and TDS. The objective is to evaluate the progress of water treatment across each section and to assess whether different times provide different treatment efficiencies.

The Sewage Treatment Plant (STP) designed for Akums Lifesciences Ltd. employs the advanced Turbo Bio Reactor (TBR) technology, which is an enhancement of the Moving Bed Biofilm Reactor (MBBR) technology. The TBR system integrates industry-specific biocatalyst coatings to enhance biochemical reactions, offering superior efficiency and performance compared to traditional MBBR systems.

### Key Features of the Turbo Bio Reactor:

#### 1. Enhanced Biochemical Reactions:

- Innovative biocatalyst coating on the carrier media significantly accelerates biochemical reactions.
- Increased efficiency in breaking down organic pollutants, reducing overall treatment time.

#### 2. Superior Treatment Performance:

- Handles higher organic loads, ideal for industrial wastewater with high contaminant concentrations.
- Achieves better effluent quality with lower BOD and COD levels.

#### 3. Energy and Cost Savings:

- Reduced energy consumption for aeration and mixing due to accelerated reaction rates and higher efficiency.
- Lower operational costs with quicker treatment cycles and less energy usage.

#### 4. Increased Treatment Capacity:

- Compact design allows for a smaller footprint and higher treatment capacity within the same space.
- Scalable solutions for small-scale facilities and large industrial plants.

#### 5. **Robust and Reliable Operation:**

- Stable environment for microbial activity even under fluctuating load conditions.
- Low maintenance with reduced fouling and clogging, increasing system longevity.

### Process Description:

#### 1. **Input Parameters:**

- Flow rate: 50 KLD
- pH: 6.0-8.5
- Oil & Grease (O&G): 30 ppm
- BOD: 200-350 ppm
- COD: 600-800 ppm
- TSS: 300-400 ppm

#### 2. **Treatment Steps:**

- **Raw Screening:** Removal of coarse suspended solids.
- **Oil & Grease Trap:** Trapping oil content with a siphon arrangement.
- **Collection Tank:** Collecting oil-free water for peak hour requirement and homogenous mixture.
- **Aeration Reactors:** Treatment in aerobic chambers with VOK-bio media for high standard water treatment.
- **Flocculation:** Continuous dosing with alum for solids removal by sedimentation in the clarifier.
- **Clarifier:** Settling out solids; supernatant fed to surge tank, sludge to sludge drying bed.

- **Chlorination Cum Disinfection Tank:** Continuous chlorine dosing for disinfection.
- **Pressure Sand Filter (PSF):** Reducing suspended load and turbidity, polishing treated water.
- **Activated Carbon Filter (ACF):** Reducing BOD, color, odor, and fine particles; polishing treated water.
- **Sludge Disposal:** Sludge from clarifier and bioreactor pumped to sludge holding tanks or sludge drying beds; supernatant returned to collection tank.
- **Electrical Controls:** Centralized control panel with both automatic and manual operation modes.

## Data and Methodology

Samples were taken at three different times: 9:00 AM, 1:00 PM, and 5:00 PM. For each time, samples were drawn from three sections of the STP: the Equalisation Tank (representing STP inlet behavior), the Filter Feed Tank (representing post-biological treatment parameters), and the STP Outlet (representing final treated water). The combined data from all times and sections is shown in the table below.

Time	Sections of STP	Equalisation Tank	Filter Feed Tank	STP Outlet
9:00 AM	pH	7.45	7.45	7.25
	COD	629.0	128.0	82.6
	BOD	256.0	71.8	27.60
	TSS	1667	118	69.2
	TDS	642.00	661.00	630.00
1:00 PM	pH	7.40	7.62	7.63
	COD	839.00	73.40	105.0
	BOD	318.00	51.30	28.8
	TSS	1483.80	114.60	76.20
	TDS	670.00	610.00	607.00

5:00 PM	pH	7.35	7.35	7.75
	COD	699.00	124.0	101.0
	BOD	441.00	76.9	29.10
	TSS	1062.00	103.90	76.00
	TDS	624.00	607.00	600.00

## Observations and Analysis

### pH

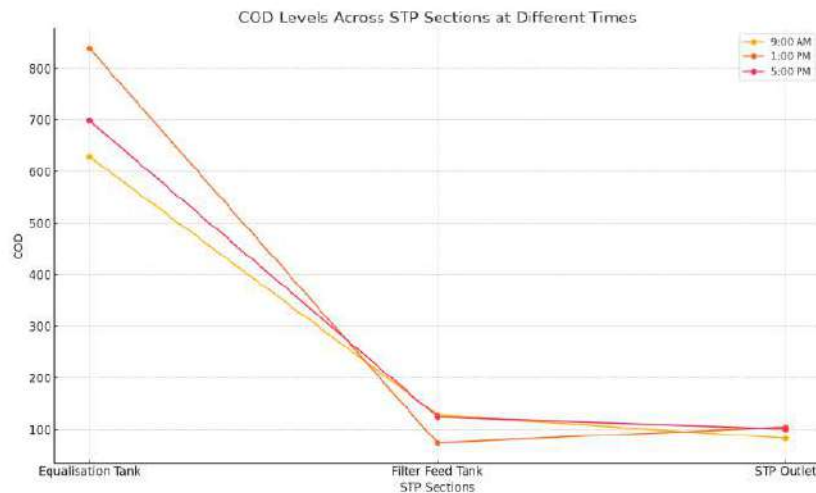
The following graph shows the levels of pH across different sections of the STP (Equalisation Tank, Filter Feed Tank, and STP Outlet) at three different times (9:00 AM, 1:00 PM, and 5:00 PM).



**Figure 2: pH levels across different sections and times.**

### COD

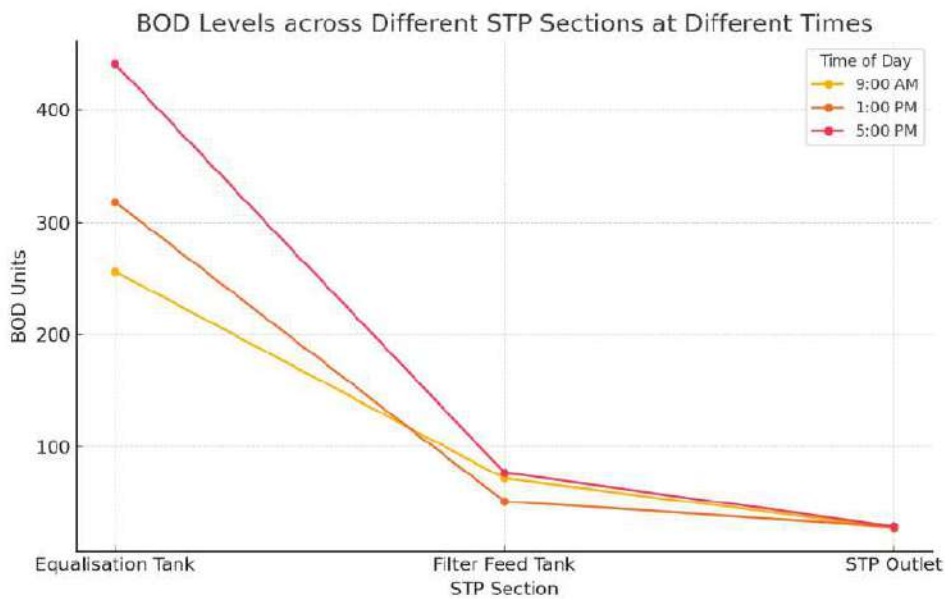
The following graph shows the levels of COD across different sections of the STP (Equalisation Tank, Filter Feed Tank, and STP Outlet) at three different times (9:00 AM, 1:00 PM, and 5:00 PM).



**Figure 3: COD levels across different sections and times.**

## BOD

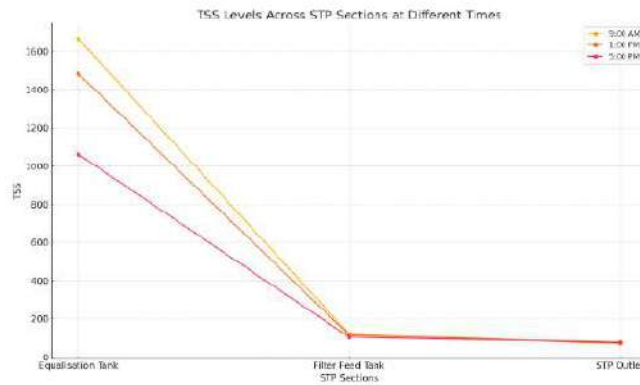
The following graph shows the levels of BOD across different sections of the STP (Equalisation Tank, Filter Feed Tank, and STP Outlet) at three different times (9:00 AM, 1:00 PM, and 5:00 PM).



**Figure 4: BOD levels across different sections and times.**

**TSS**

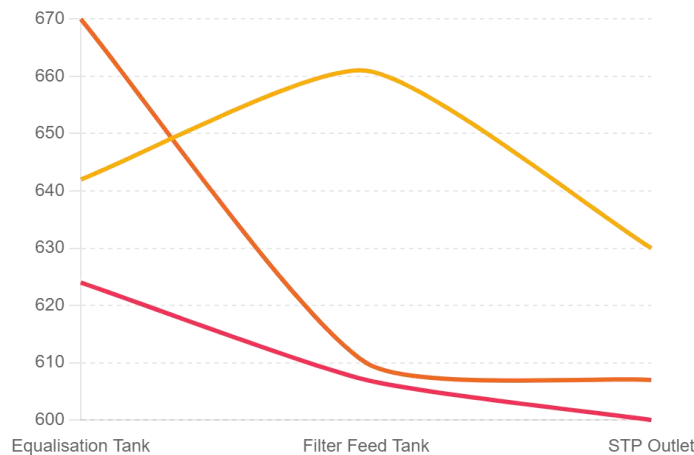
The following graph shows the levels of TSS across different sections of the STP (Equalisation Tank, Filter Feed Tank, and STP Outlet) at three different times (9:00 AM, 1:00 PM, and 5:00 PM).



**Figure 5: TSS levels across different sections and times.**

**TDS**

The following graph shows the levels of TDS across different sections of the STP (Equalisation Tank, Filter Feed Tank, and STP Outlet) at three different times (9:00 AM, 1:00 PM, and 5:00 PM).



**Figure 6: TDS levels across different sections and times.**

### CHAPTER 3: Agitated Thin Film Dryer (ATFD)

---

The Agitated Thin Film Dryer (ATFD) is used to concentrate the sludge produced from the Mechanical Evaporator System (MEE). The dried salts obtained from the ATFD process are subsequently sent to a Treatment Storage and Disposal Facility (TSDF) for proper disposal. The following are the operating parameters of the ATFD system:

<b>Particular</b>	<b>Values</b>
<b>Water Evaporation Rate</b>	481 kg/hr
<b>Feed Rate to ATFD</b>	818 kg/hr
<b>Concentrate Outlet Rate</b>	337 kg/hr
<b>Total Solids in Product Feed</b>	35%
<b>Total Solids in Outlet Product</b>	85%
<b>Concentrate Outlet Temperature</b>	60-65°C
<b>Cooling Water Inlet/Outlet Temperature</b>	32-40°C
<b>Cooling Water Quantity</b>	55 m <sup>3</sup> /hr
<b>Required Steam Pressure</b>	6 kg/cm <sup>2</sup>
<b>Motive Steam Consumption</b>	600 kg/hr
<b>ATFD Power</b>	27 HP
<b>Cooling Tower Power</b>	Client Scope
<b>Blower Power</b>	10 HP
<b>Operating Hours</b>	20 hrs/day
<b>Duty</b>	Continuous
<b>Total Power Required</b>	37 HP
<b>Absorbed Power</b>	24 kWh

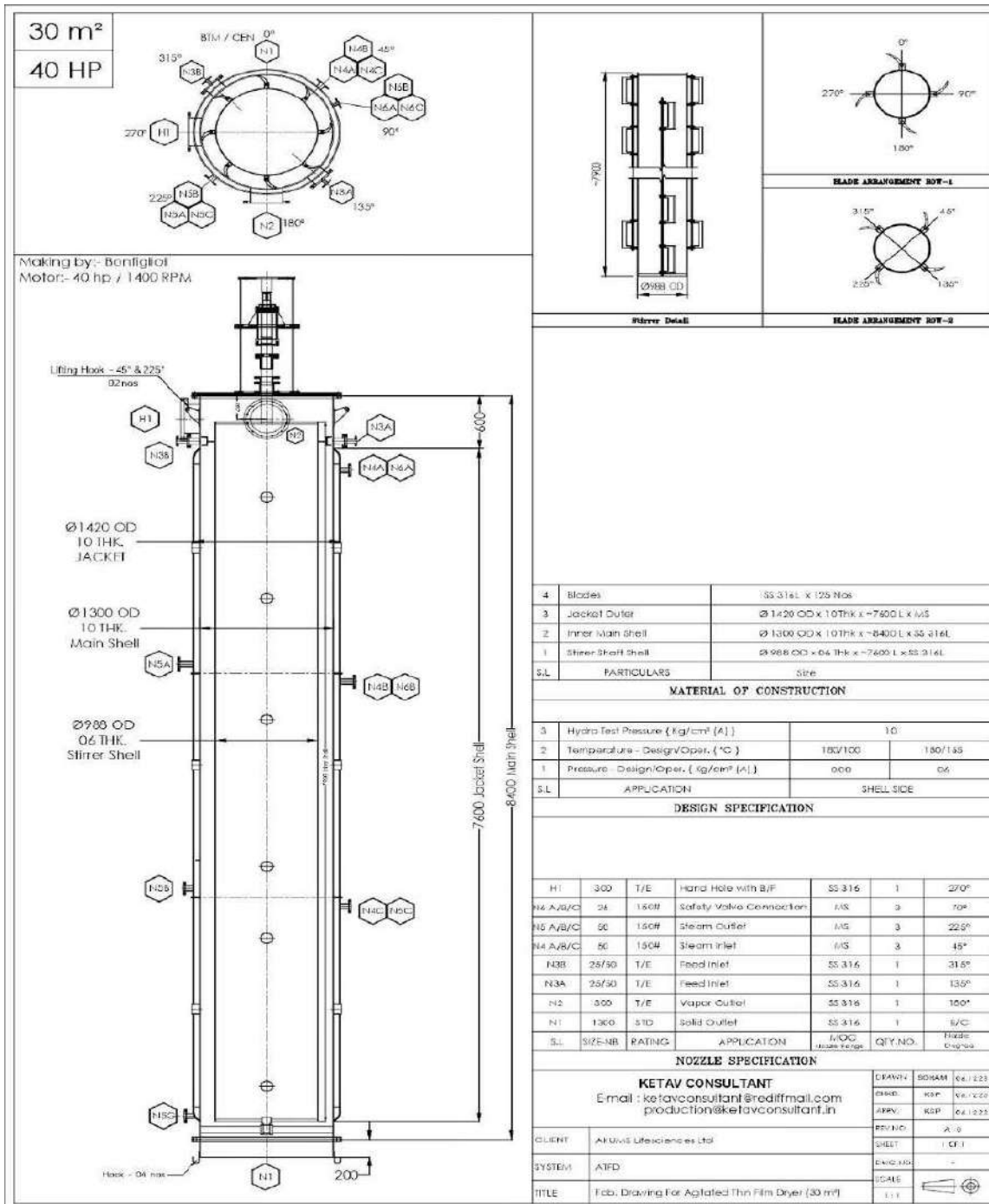


Figure 7



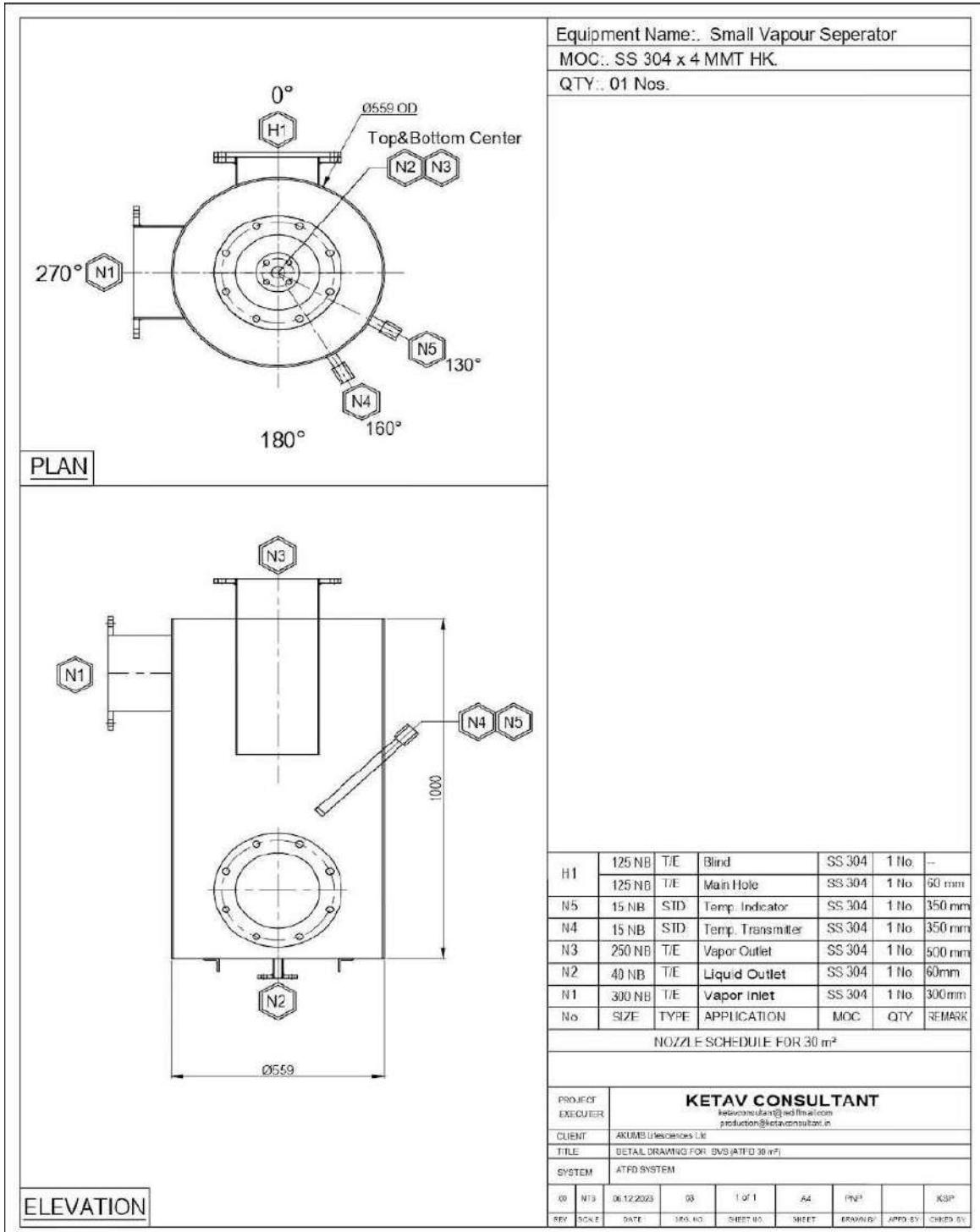


Figure 9

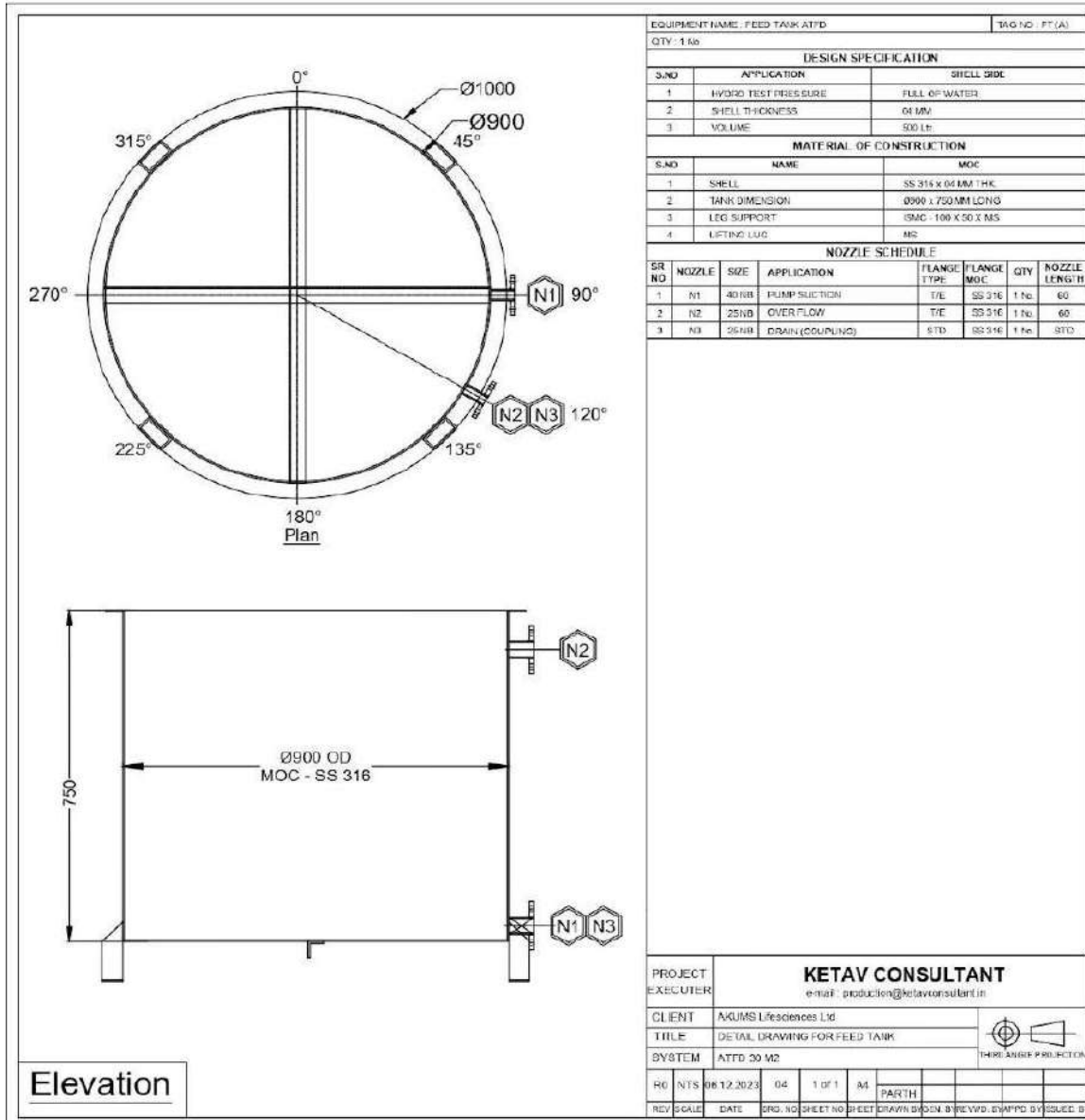


Figure 10

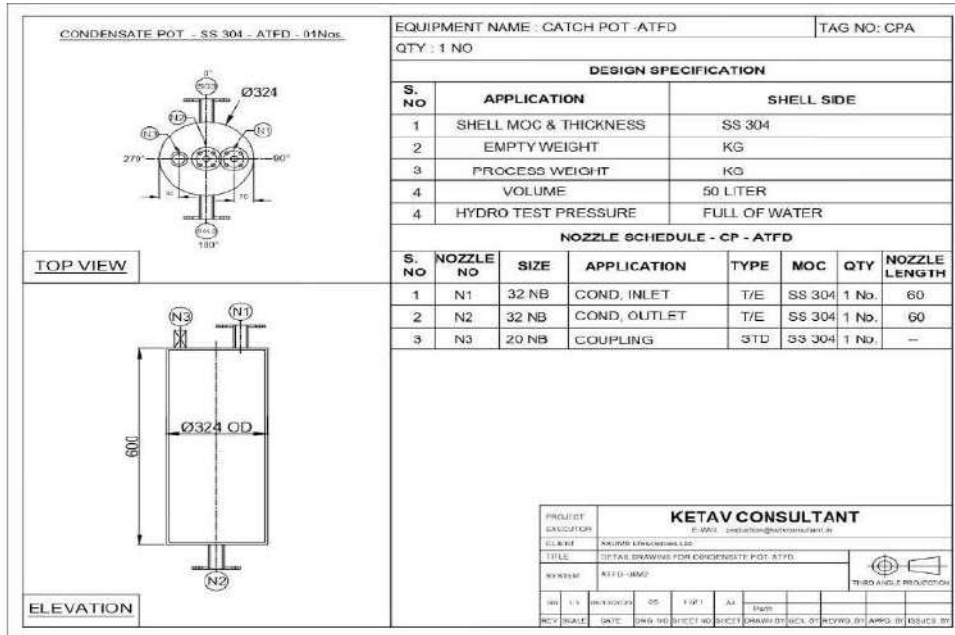


Figure 11

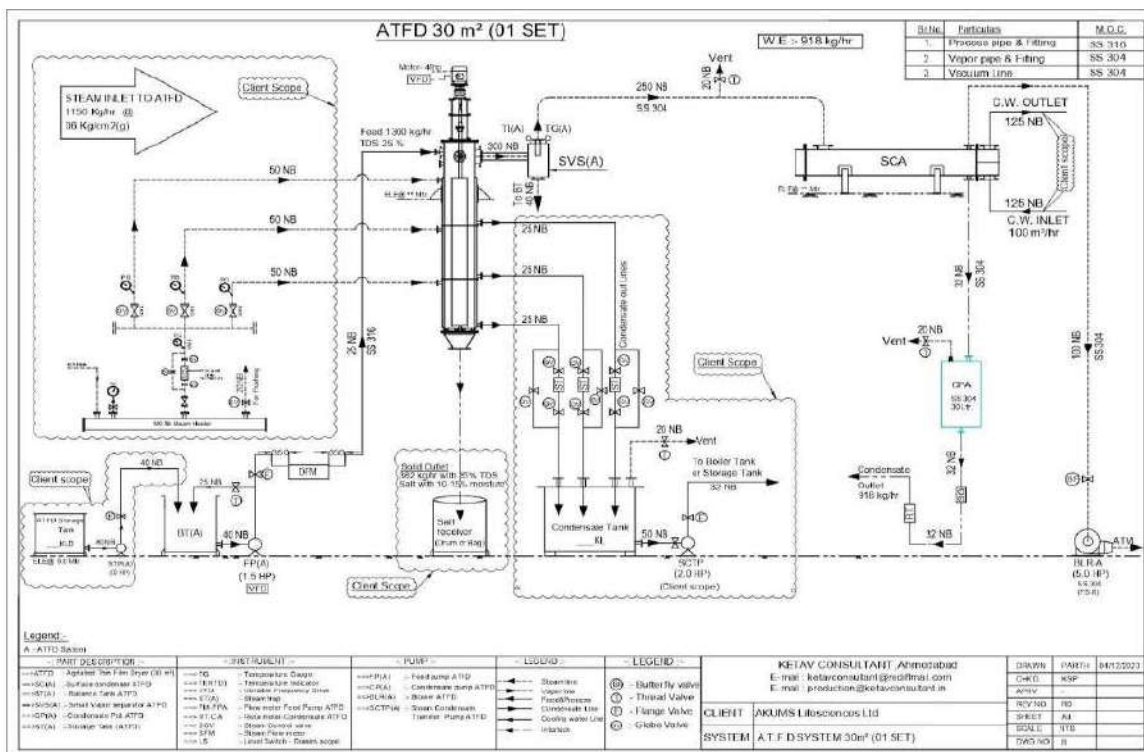


Figure 12

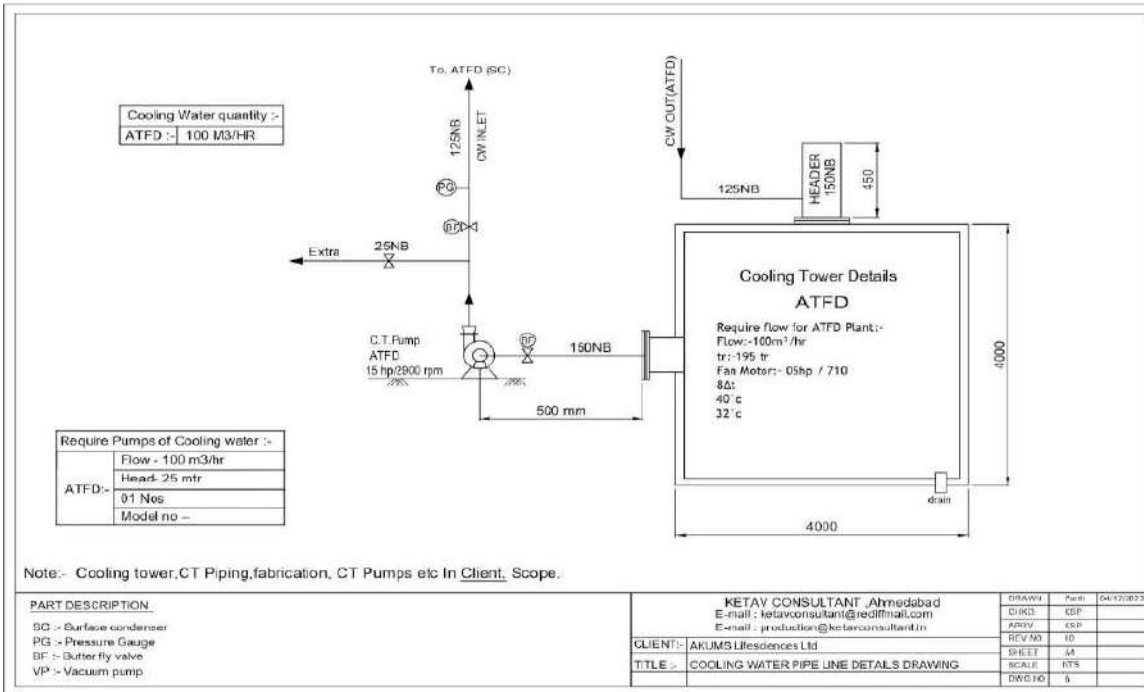


Figure 13

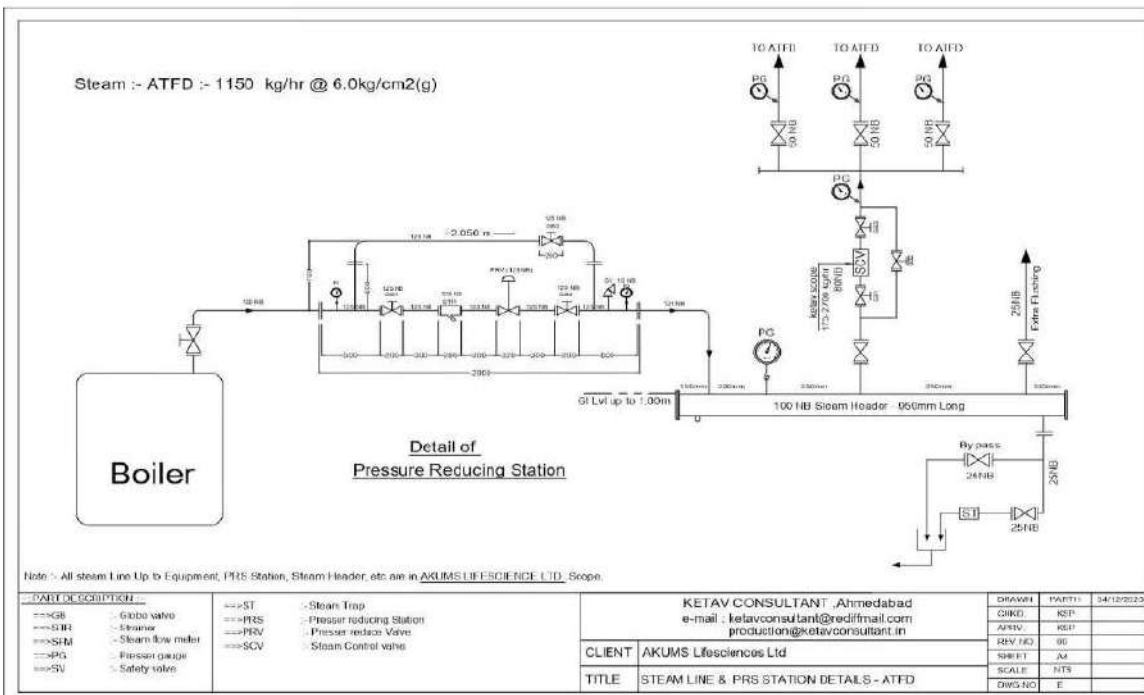


Figure 14

### Data and Methodology

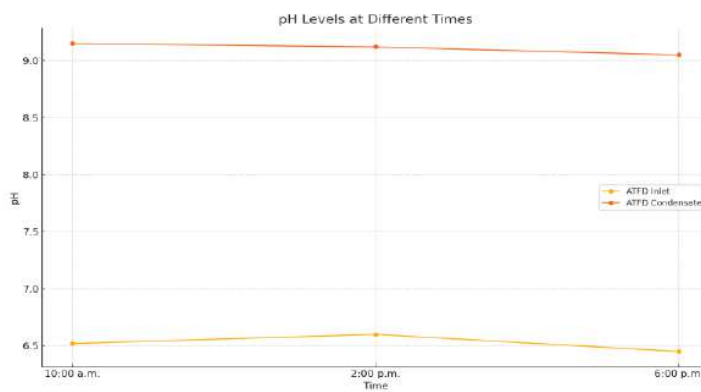
Samples were taken at different times: 10:00 AM, 2:00 PM, and 6:00 PM. For each time, samples were drawn from the ATFD Inlet and the ATFD Condensate. The combined data from all times and sections is shown in the table below.

S. No.	Time	SAMPLE	pH	COD (mg/L)	BOD (mg/L)	TSS (mg/L)	TDS (mg/L)	Al (mg/L)	B (mg/L)	Ca (mg/L)		
1	10:00 a.m.	ATFD Inlet	6.52	24770 6	2769	37922	31946 0.0	0.443	1.42	47.3		
2	10:00 a.m.	ATFD Cond	9.15	26147	9743	3.92	140.99	nan	nan	7.91		
3	2:00 p.m.	ATFD Inlet	6.6	24311 9	1282	27993. 1	27207 5.9	0.595	1.35	47.3		
4	2:00 p.m.	ATFD Cond	9.12	27064	1256	4.099	289.9	nan	nan	7.37		
5	6:00 p.m.	ATFD Inlet	6.45	14220 2	2461	27664. 399	27836 8.0	0.52	1.37	47.2		
6	6:00 p.m.	ATFD Cond	9.05	27982	277	6.8	287.00	nan	nan	4.34		
S. No.	Time	SAMPLE	Cd (mg/L)	Cu (mg/L)	Fe (mg/L)	K (mg/L)	Mg (mg/L)	Mn (mg/L)	Ni (mg/L)	Pb (mg/L)	Zn (mg/L)	NH4_A mm (mg/L)
1	10:00 a.m.	ATFD Inlet	nan	nan	49.9	891.0	122.0	nan	3.15	nan	0.555	334
2	10:00 a.m.	ATFD Cond	nan	nan	7.45	5.75	0.825	nan	nan	nan	nan	523
3	2:00 p.m.	ATFD Inlet	nan	nan	49.8	703.0	111.0	nan	2.78	nan	0.667	408
4	2:00 p.m.	ATFD Cond	nan	nan	1.21	1.45	0.784	nan	nan	nan	nan	492
5	6:00 p.m.	ATFD Inlet	nan	nan	53.3	872.0	149.0	nan	2.8	nan	0.611	102
6	6:00 p.m.	ATFD Cond	nan	nan	nan	1.48	0.624	nan	nan	nan	nan	183

## Observations and Analysis

### pH

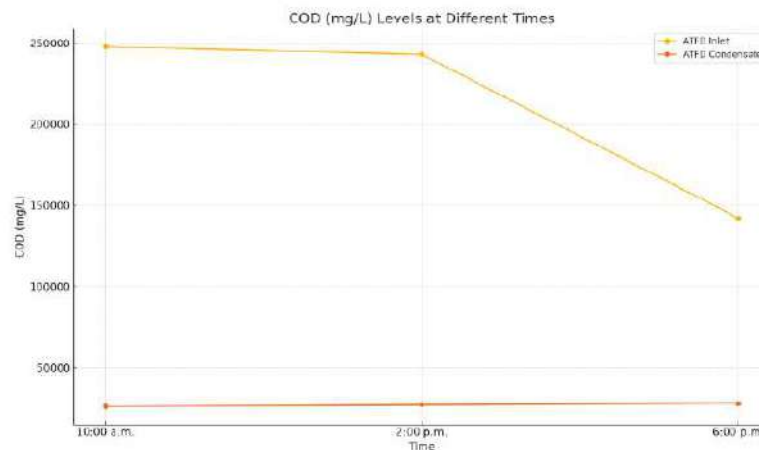
The following graph shows the levels of pH at different times (10:00 AM, 2:00 PM, and 6:00 PM) for ATFD Inlet and ATFD Condensate.



**Figure 15: pH levels at different times.**

### COD (mg/L)

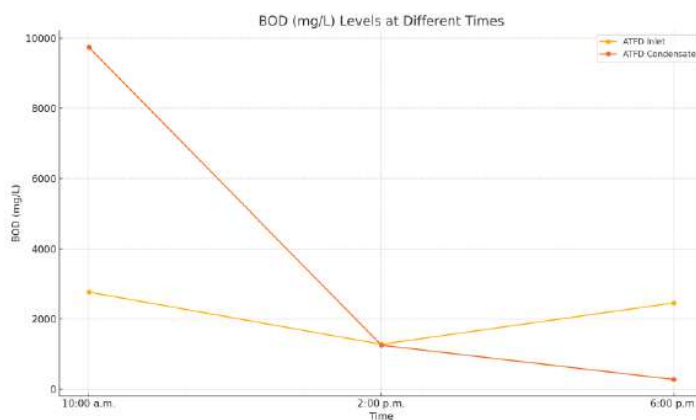
The following graph shows the levels of COD (mg/L) at different times (10:00 AM, 2:00 PM, and 6:00 PM) for ATFD Inlet and ATFD Condensate.



**Figure 16: COD (mg/L) levels at different times.**

### BOD (mg/L)

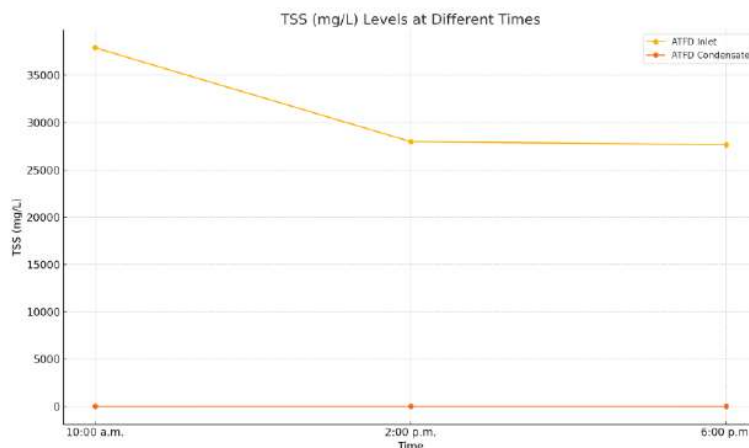
The following graph shows the levels of BOD (mg/L) at different times (10:00 AM, 2:00 PM, and 6:00 PM) for ATFD Inlet and ATFD Condensate.



**Figure 17: BOD (mg/L) levels at different times.**

### TSS (mg/L)

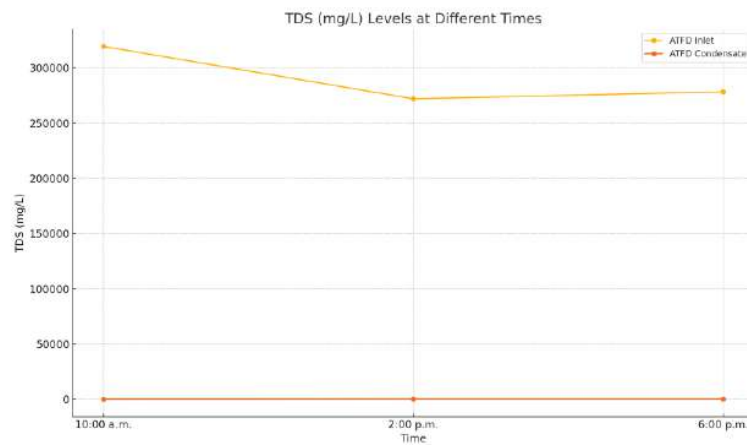
The following graph shows the levels of TSS (mg/L) at different times (10:00 AM, 2:00 PM, and 6:00 PM) for ATFD Inlet and ATFD Condensate.



**Figure 18: TSS (mg/L) levels at different times.**

### TDS (mg/L)

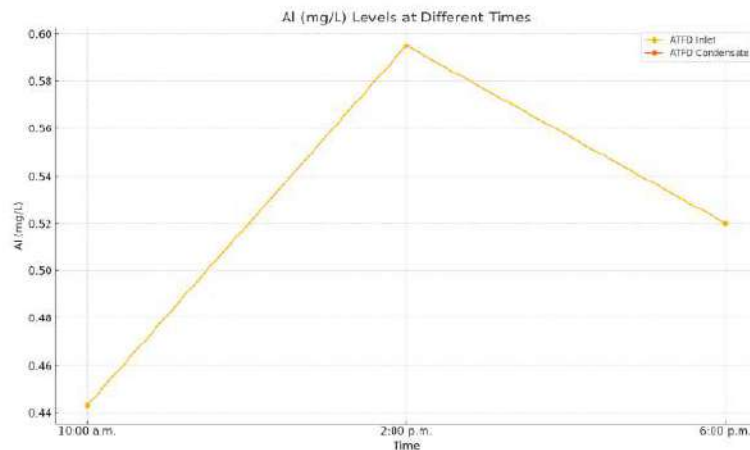
The following graph shows the levels of TDS (mg/L) at different times (10:00 AM, 2:00 PM, and 6:00 PM) for ATFD Inlet and ATFD Condensate.



**Figure 19: TDS (mg/L) levels at different times.**

### Al (mg/L)

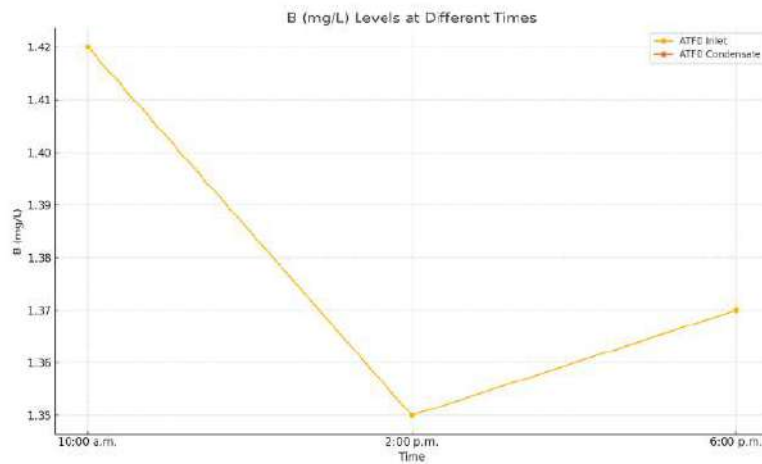
The following graph shows the levels of Al (mg/L) at different times (10:00 AM, 2:00 PM, and 6:00 PM) for ATFD Inlet and ATFD Condensate.



**Figure 20: Al (mg/L) levels at different times.**

### B (mg/L)

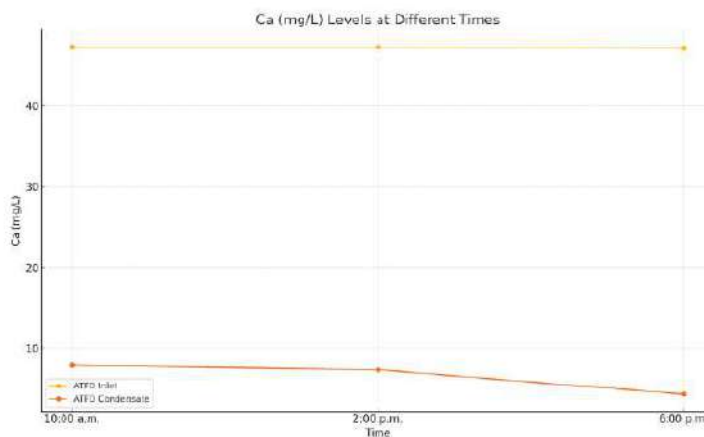
The following graph shows the levels of B (mg/L) at different times (10:00 AM, 2:00 PM, and 6:00 PM) for ATFD Inlet and ATFD Condensate.



**Figure 21: B (mg/L) levels at different times.**

### Ca (mg/L)

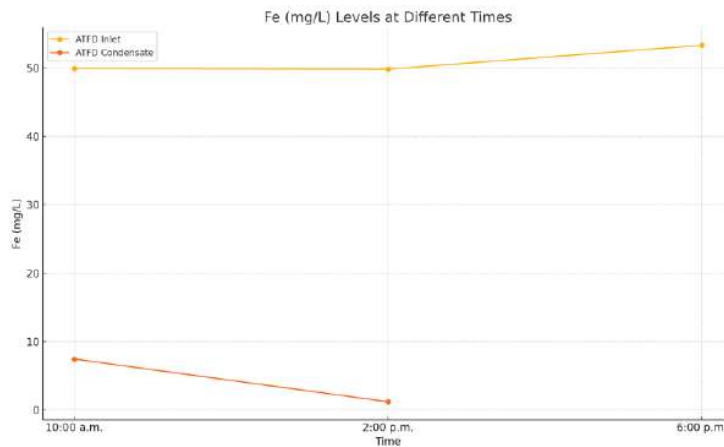
The following graph shows the levels of Ca (mg/L) at different times (10:00 AM, 2:00 PM, and 6:00 PM) for ATFD Inlet and ATFD Condensate.



**Figure 22: Ca (mg/L) levels at different times.**

### Fe (mg/L)

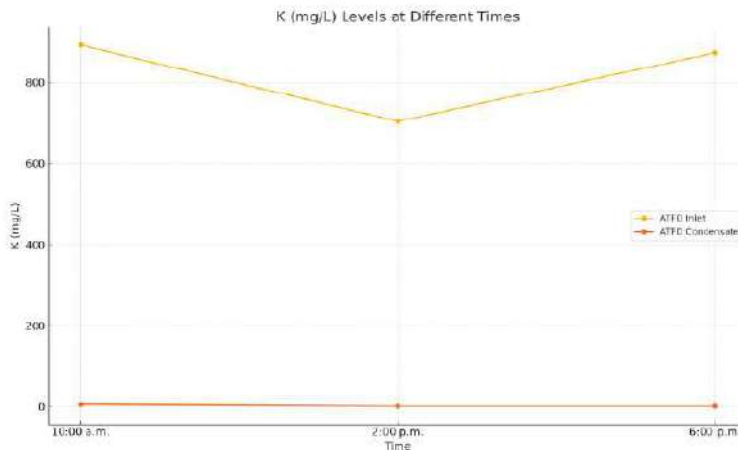
The following graph shows the levels of Fe (mg/L) at different times (10:00 AM, 2:00 PM, and 6:00 PM) for ATFD Inlet and ATFD Condensate.



**Figure 23: Fe (mg/L) levels at different times.**

### K (mg/L)

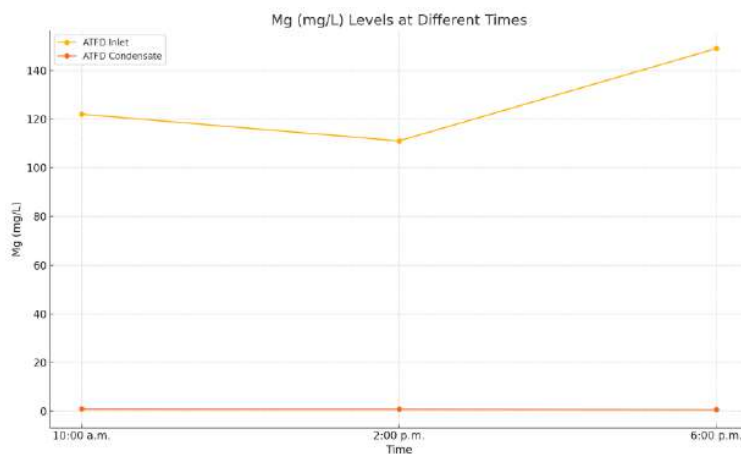
The following graph shows the levels of K (mg/L) at different times (10:00 AM, 2:00 PM, and 6:00 PM) for ATFD Inlet and ATFD Condensate.



**Figure 24: K (mg/L) levels at different times.**

### Mg (mg/L)

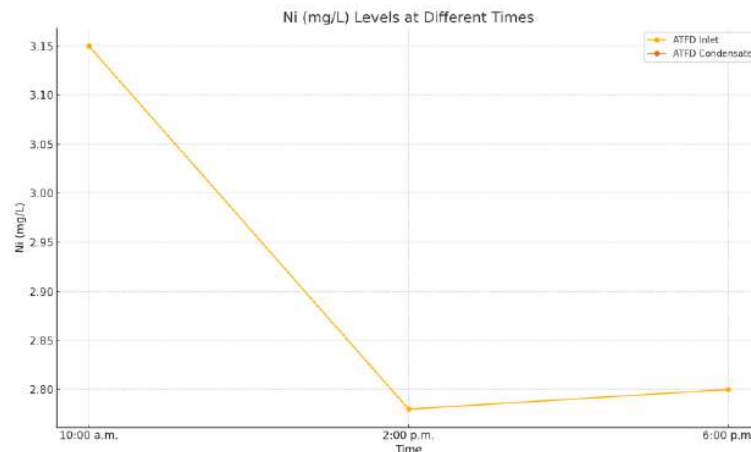
The following graph shows the levels of Mg (mg/L) at different times (10:00 AM, 2:00 PM, and 6:00 PM) for ATFD Inlet and ATFD Condensate.



**Figure 25: Mg (mg/L) levels at different times.**

### Ni (mg/L)

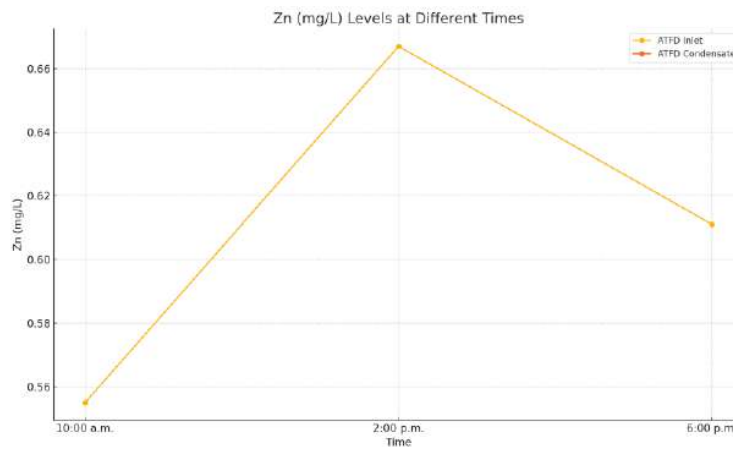
The following graph shows the levels of Ni (mg/L) at different times (10:00 AM, 2:00 PM, and 6:00 PM) for ATFD Inlet and ATFD Condensate.



**Figure 26: Ni (mg/L) levels at different times.**

### Zn (mg/L)

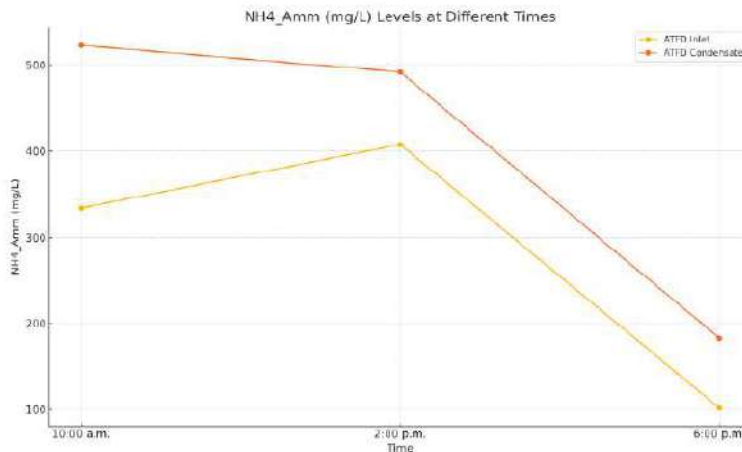
The following graph shows the levels of Zn (mg/L) at different times (10:00 AM, 2:00 PM, and 6:00 PM) for ATFD Inlet and ATFD Condensate.



**Figure 27: Zn (mg/L) levels at different times.**

### NH<sub>4</sub>\_Amm (mg/L)

The following graph shows the levels of NH<sub>4</sub>\_Amm (mg/L) at different times (10:00 AM, 2:00 PM, and 6:00 PM) for ATFD Inlet and ATFD Condensate.



**Figure 28: NH<sub>4</sub>\_Amm (mg/L) levels at different times.**

## CHAPTER 3: Bag House Filter

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The analysis of the Bag house filter system attached to a 6TPH boiler using rice husk as fuel is to evaluate the efficiency of the system in reducing particulate matter emissions at different times of the day.

### Technical Information on Bag House Filter

The technical specifications of the Bag house filter system include:

- **Duty Conditions:** Flue Gas Dedusting of 6TPH Boiler
- **GAS Flow Rate:** 12600 CMH
- **Temperature of the Gases (max):** 200°C
- **Inlet Dust Load:** 20 gm/Nm<sup>3</sup>
- **Design Pressure:** ± 350 mm wc
- **Outlet Emission:** <50 mg/Nm<sup>3</sup>
- **Bag Filter Design:** CBL
- **Type:** On-line Cleaning, Free Standing Bag Filter
- **Area per Bag:** 1.723 m<sup>2</sup>
- **Number of Bags:** 120
- **Total Filtration Area:** 206.4 m<sup>2</sup>
- **Air to Cloth Ratio:** 1.01 m<sup>3</sup>/min/m<sup>2</sup>
- **Bag Material:** Woven Fibre glass with PTFE Membrane
- **Max. Operating Temperature:** 260°C
- **Weight:** 750 gms/m<sup>2</sup>
- **Permeability:** 2.5-6.0 cc/cm<sup>2</sup>
- **Bag Cleaning Mechanism:** Compressed air purging through solenoid and diaphragm valves, controlled by a solid-state sequence controller
- **Compressed Air Quality:** Instrument Air, Free from Oil, Moisture & Dirt
- **Compressed Air Pressure:** 3.5-4 Kg/cm<sup>2</sup>
- **Compressed Air Requirement:** 35 CMH

- **Size of Pulse & Solenoid Valve:** 50 mm
- **Number of Pulse & Solenoid Valves:** 10
- **Dust Disposal Arrangement:** Through Rotary Air Lock (RAL-250)
- **Material of Construction:** MS, GI Wire, Aluminium, Painted with Red Oxide Primer

### Data and Methodology

Samples were taken at different times (9:00 AM, 12:00 PM, 3:00 PM, and 6:00 PM) to measure particulate matter levels.

### Summary Statistics

Time	Particulate Matter (Mg/Nm <sup>3</sup> )
9:00 AM	72.00
12:00 PM	65.00
3:00 PM	58.00
6:00 PM	60.00





## CHAPTER 4: RECCOMENDATIONS

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### 1. **Continuous Monitoring and Control:**

- **pH Levels:** Regularly monitor pH levels to ensure they remain within acceptable ranges to prevent operational issues and maintain the effectiveness of the treatment process. Both the STP and ATFD systems show slight variations in pH, but these are within acceptable limits, indicating stable control over the treatment processes.
- **Particulate Matter Levels:** Regularly monitor particulate matter levels to ensure emissions remain within regulatory limits. The Bag house filter effectively reduces particulate matter levels, demonstrating the importance of continuous monitoring to maintain compliance with emission standards.

### 2. **Optimize Removal Processes:**

- **COD and BOD Removal:** Continuously optimize the removal processes for Chemical Oxygen Demand (COD) and Biological Oxygen Demand (BOD) to ensure effective treatment of organic pollutants. Both the STP and ATFD systems demonstrate consistent reductions in COD and BOD levels, indicating efficient pollutant removal.
- **TSS and TDS Reduction:** Maintain and monitor sedimentation, filtration, and other relevant units to ensure consistent reduction of Total Suspended Solids (TSS) and Total Dissolved Solids (TDS). The STP and ATFD systems show effective reduction in TSS and TDS levels, contributing to overall treatment efficiency.

### 3. **Regular Maintenance:**

- **Equipment and Units:** Perform routine checks and maintenance of all treatment units, including bag filters, sedimentation tanks, and filtration systems, to ensure efficient operation and prevent any breakdowns or inefficiencies. Regular maintenance ensures the

continued effectiveness of the treatment processes and prevents unexpected downtime.

- **Cleaning Mechanisms:** Ensure that cleaning mechanisms, such as the compressed air purging system in bag filters, are functioning optimally. The Bag house filter system relies on effective cleaning mechanisms to maintain its performance in reducing particulate matter levels.

#### 4. **Dust and Solid Management:**

- **Dust Disposal:** Enhance dust disposal arrangements to prevent blockages and inefficiencies. The Bag house filter system uses a rotary air lock for dust disposal, which should be regularly inspected and maintained to ensure it operates effectively.
- **Solid Waste:** Investigate sources of solid waste and optimize processes to manage and reduce Total Dissolved Solids (TDS) where applicable. Effective solid waste management is crucial for maintaining the performance of the ATFD and STP systems.

#### 5. **Metal and Ion Levels:**

- **Monitoring:** Continue to monitor and manage the levels of metals and ions to ensure they remain within safe limits. The ATFD system effectively reduces various metals and ions, highlighting the importance of regular monitoring to maintain treatment efficiency and compliance with safety standards.

## CHAPTER 5: Conclusion

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The data indicates that the integrated treatment systems—STP, ATFD, and Bag house filter—are performing effectively in their respective functions of water and air pollutant management.

### **STP (SEWAGE TREATMENT PLANT) :-**

- The STP design is robust and the latest state of art.
- Performance of STP operation is up to the mark. The outlet parameters are within the prescribed limit.

### **ATFD (Agitated Thin Film Dryer) :-**

- The ATFD design and performance is perfect at the enhanced capacity.
- Further optimisation can help energy saving and some more condensate availability.

### **BAG HOUSE FILTER :-**

- The design of the bag house filter is perfect and is achieving the parameters as discussed.
- Combustion efficiency and Draft management will further inform the efficiency of Bag House Filter.
- Combustion efficiency will reduce the PM level in inlet gases and reduce Co gas.
- Draft management will help to reduce the energy loss and help in improve the life of bags.

Overall, the integrated treatment systems demonstrate robust performance in managing and controlling both water and air pollutants, contributing to environmental protection and regulatory compliance. Regular monitoring, process optimization, and routine maintenance are key to sustaining their effectiveness and efficiency.

Can be used in Additional Affidavit in the

## ANNEXURE R3/13

THAPAR OBSERVATION		
Sr.No	Observation	Compliance Status
1	<b>Maximize Wastewater Reuse:</b> Given the high stress and overexploitation of groundwater in the Derabassi tehsil, it is advisable to maximize the reuse of treated wastewater to alleviate groundwater consumption pressure.	Considering the water stress and liability towards community, we have taken several steps to minimize the water withdrawal, are as below- 1. we are recovering 85 % of water condensate currently, and utilizing again in process. 2. We have installed STP in our premises and all sewage is being utilized in horticulture after treatment, which eliminates the fresh water requirement for gardening purpose (Qty 11 KLD) 3. Industry has installed RO in ETP, through which utilizing the effluent in process after treatment. (Qty 35 KLD) Further industry is evaluating several technologies to increase our recycling / reuse qty.
2	<b>Optimize Production Capacity:</b> The industry should strive to optimize and regularize its production capacity to align with environmental practices ensuring efficient resource utilization. The quantitative and qualitative assessment is given in the report.	Industry's production is completely depending on the market demand and produce accordingly. We are improving our water statistics with several improvement initiatives. both old and new water balance report attached for your reference. We have also improved our water consumption for domestic purposes and further exploring the options to conserve more.
3	<b>Improve Water Management:</b> To address fluctuations in freshwater consumption and enhance water management practices, the industry should implement measures to minimize water wastage and improve overall efficiency. The industry should adopt TWM practices.	Industry production is completely depending on the market demand and produce accordingly. When we get continue demand from market, fluctuation are less. Industry achieved the 85% recovery of steam condensate. Industry is in installation phase of water less urinal to minimize the fresh water consumption and less sewage generation.
4	<b>Upgrade RO System:</b> Considering the discrepancy between actual TDS levels and the designed capacity of the existing RO system, upgrading to a more robust RO system capable of handling higher TDS levels is advised to improve water recycling efficiency.	Earlier a HTDS stream was mixing with the LTDS effluent stream, hence TDS level was higher in LTDS effluent. Now drain is completely separated and LTDS effluent TDS is 1800 mg/Ltr.. Industry has strengthened the ETP system with increasing the capacity of ATFD and changing RO membranes and UF membrane. Also industry has installed the 50 KLD capacity STP to treat sewage, generated within premises and utilize the treated sewage in horticulture activities. Further industry is exploring the 2nd stage RO to increase the effluent recycle qty.
5	<b>Strengthen Emission Controls:</b> Stringent emission control and monitoring measures should be implemented to mitigate combustion-related emissions, particularly in areas with elevated concentrations of SO <sub>2</sub> and NO <sub>x</sub> ,	Industry has installed the state of art bagfilter, in addition of previously installed cyclone separator and same is being operated effectively. Boiler is being fed with agro based fuel. Latest stack emission monitoring report is attached herewith as Annexure - 1, which is showing that emissions (SO <sub>x</sub> NO <sub>x</sub> ) are for below than limit.

	ensuring compliance with environmental standards.	
6	<p><b>Optimize Hazardous Waste Management:</b> The industry should focus on waste minimization, recycling, and adopting sustainable practices to optimize hazardous waste management, addressing discrepancies in waste generation and disposal.</p>	<p>Industry is providing the waste to recycler such as used oil, plastic, and plastic drums, containers, metallic scrap etc. The waste which are not recyclable is being provided to authorized TSDF site for secured landfill / disposal.</p>
7	<p>Although water meter have been installed at diffent consumption sources and for RO permeate generation since july 2023 specialized metering at recycling points is lacking while verification of water meter data confirms water recycling practice its recommendade that the industry install separate meter at recycling points to ensure accurate verification and generation for zero liquid discharge practices.</p>	<p>Industry has installed the flow meters at recycling points i.e. colling tower makeup line, boiler, and horticulture. Photo of installed flow meters are attachedherewith for reference as Annexure - 2. Further if any recycling point will be developed in future, shall be covered with flowmeter.</p>

**Dheeraj Kumar**

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**From:** Lakshya Sharma  
**Sent:** Wednesday, September 11, 2024 5:30 PM  
**To:** madanlaldhiman12@gmail.com; 'mspcb@gmail.com'; 'ppcbsee\_zpl@yahoo.com'; 'dc.mhl@punjab.gov.in'; cs@punjab.gov.in  
**Cc:** Faisal Sherwani; Shikher Deep Aggarwal; Sanjukta Kaushik  
**Subject:** M.L. Dhiman v. State of Punjab, M.A. No. 70 of 2023 in O.A. No. 105 of 2023 | Additional counter affidavit on the behalf of the Respondent No. 3  
**Attachments:** 1. Additional Counter Affidavit\_ML Dhiman v. State of Punjab.pdf

**[NDOH: 15.10.2024]**

Respected Sir,

We write in relation to the captioned matter.

Please find attached a scanned copy of the additional counter affidavit being filed on the behalf of the Respondent No. 3 before the Ld. National Green Tribunal.

Kindly treat this as advance service.

Sincerely,

Lakshya Sharma  
[On behalf of Mr. Shikher Deep Aggarwal,  
Counsel for Respondent No. 3]